Studies of Corporate Governance in New Zealand

by

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Acknowledgments

It's hard to know where to begin. If ten years ago someone had said I'd be sitting here writing the acknowledgments to a Ph.D., I'd wouldn't have believed them. That I'm here today is, in part, due to the support and encouragement of some rather special people.

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To date, a total of nine papers and research notes - which are based largely on the material contained in this thesis - have been published. These papers and the chapters of this thesis that they draw upon are shown below:

Chapter 4

Fox, M.A. and Walker, G.R. (1995) Board structure of New Zealand publicly listed companies. *Company and Securities Law Journal*, 13, 6, 400-405.

Chapter 8

Fox, M.A., Roy, M.R. and Walker, G.R. (1995) Corporate control of New Zealand publicly listed companies, 1962 to 1993. *Company and Securities Law Journal*, 13, 1, 73-75.

Chapter 9

Fox, M.A., Roy, M.R. and Walker, G.R. (1994) Interlocking directorships in New Zealand publicly listed companies. *Company and Securities Law Journal*, 12, 5, 331-335.

Roy, M.R., Fox, M.A. and Hamilton, R.T. (1994) Board size and potential corporate and director interlocks in Australasia 1984-1993. *Australian Journal of Management*, 19, 2, 201-217.

Chapter 10

Fox, M.A. and Roy, M.R. (1994) Corporate control and foreign ownership of New Zealand listed equities. *New Zealand Strategic Management*, 1, 2, 24-31.

Fox, M.A. and Walker, G.R. (1994) Ownership structure of New Zealand Stock exchange Top 40 companies. *Company and Securities Law Journal*, 12, 8, 529-530.

Walker, G.R. and Fox, M.A. (1994) Securities regulation and New Zealand sharemarket patterns, 1989-1993. *Journal of Banking and Finance: Law and Practice*, 5, 3, 244-250.

Chapter 11
Fox, M.A. and Walker, G.R. (1994) Institutional investment in New Zealand publicly listed companies. *Company and Securities Law Journal*, 12, 7, 467-469.

Chapters 4, 8, 9, 10 and 11
Fox, M.A. and Walker, G.R. (1995) Evidence on corporate governance in New Zealand listed companies. *Otago Law Review,* 9, December, *forthcoming.*

The following papers are currently under review:

Chapters 4 and 5
Fox, M.A. Board structure of New Zealand public listed companies: an international comparative approach. *Corporate Governance - An International Review.*

Chapters 6 and 7
Fox, M.A. and Cammock, P.C. Leadership of boards of directors and financial performance in New Zealand, 1990-93. *New Zealand Journal of Business.*

In addition to the aforementioned, three manuscripts - which are based on this thesis - are in preparation. These manuscripts, the chapters they draw on and their target journals are as follows:

Chapter 2
Fox, M.A. and Hamilton, R.T. From corporate governance to corporate strategy. *Journal of Management Studies.*

Chapter 3
Fox, M.A. and Hamilton, R.T., Corporate governance and corporate failure. *Journal of Business Research.*

Chapters 6 and 7
Fox, M.A. and Hamilton, R.T. Determinants and performance consequences of board composition. *Managerial and Decision Economics.*

The work reported in this thesis is my own, with the following exceptions:

Chapter 8 (Corporate control and financial performance)
Matt Roy collected, under my supervision, approximately two-thirds of the corporate control data for the year 1993.

Chapter 9 (Potential corporate and director interlocks)
This chapter was researched in collaboration with Matt Roy and written in collaboration with Matt Roy and Bob Hamilton. The contributions of Matt and I to this chapter are more-or-less equal, with Bob Hamilton playing a comparatively minor role in re-writing the paper, following submission and a subsequent invitation to re-submit the paper to the *Australian Journal of Management.* An earlier version of this chapter appears in Matt Roy's Master of Commerce research project*, which I supervised.

Chapter 10 (Institutional investment)
The data for this chapter was collected, under my close supervision, by Sam Mellor, a Master of Laws student at the University of Canterbury.

I accept full responsibility for any errors or omissions which may remain in this thesis.

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* Matt Roy (1994) *Corporate interlocks in New Zealand.* Research Project, Department of Accounting, Finance and Information Systems, University of Canterbury.

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Abstract

This thesis investigates several issues relating to corporate governance. These issues include the relationships between corporate governance and each of: strategy, failure, and financial performance.

We find that major reductions in the level of diversity of companies are preceded by changes in the identity of the major shareholder. Also, companies which had a majority of outside (non-executive) directors on their board, and did not have a divisional structure, were more likely to fail. With regards corporate governance and financial performance, we find that board structure is not a consistent determinant of performance.

The studies herein also provide insights into board structure, corporate control and interlocks in New Zealand public companies. Board size has declined by approximately one director since the mid-1980s, as has the number of outside directors. We find no support for any "managerial revolution" in New Zealand; on the contrary our public listed companies have increasingly become subject to the control of major shareholders. In particular control by both foreign and institutional investors has increased over the last ten years. There has also been a reduction in the level of interlocks between New Zealand public companies.

Chapter One

INTRODUCTION

1.1 OBJECTIVES OF THE THESIS

This thesis is concerned with a number of important, and hitherto somewhat neglected, issues relating to corporate governance, corporate strategy, and the relationship between these. Foremost among these research questions are: What effect does corporate governance have on corporate strategy and on the survival of large New Zealand corporations? What influences the structure of boards of directors? What impact does board structure have on corporate financial performance?

The research undertaken uses readily identifiable aspects of board structure to investigate some of the issues outlined above. These qualities include: whether or not the chief executive officer is also board chair (CEO duality), the number of directors, and the number and proportion of non-executive (outside) directors. This approach is taken for two reasons: First, to ensure consistency with previous research. Second, for the sake of convenience, and possible replication (such data can easily be obtained from secondary data sources, such as annual reports).

1.2 BACKGROUND TO THE THESIS

We will use the term *corporate strategy* to refer to those decisions which determine the range of industries in which a firm is active at any point in time.[1] In other words, the scope for strategic choice are the entry (diversification) and exit (divestment) decisions which determine the set of industries in which a firm is operating at any point in time.

During the period 1975 to 1985, New Zealand listed companies with a related diversified strategy outperformed companies having other corporate strategies, in terms of return on assets, return on equity and growth in sales (Hamilton and Shergill, 1992, 1993a, 1993b). Given the demonstrated superiority of this strategy

[1] Refer *Appendix 1* for a description of the measurement of corporate strategy used in this thesis.

we would expect companies not already having this strategy to adopted it in the subsequent period, 1985 to 1990. However, if we examine the corporate strategies of listed companies present in both 1985 and 1990 (refer Table 1.1), we observe that this is not the case. There was no such move to related diversification. On the contrary, three of the six companies which had this strategy in 1985 adopted another strategy by 1990. Furthermore, we note that in 1990, surviving companies tended to lie at the two extremes in terms of strategy (23 of our 54 companies retained *very low diversity* over 1985-90 and 15 retained *very high diversity* as their strategy over this same period). In contrast, there was a more even spread of corporate strategies among companies listed in 1985, which did not survive to 1990 (refer Table 1.2). Of particular interest in Table 1.2, we note that firms having a related diversification strategy in 1985 did not appear to reduce the risks of failure (ie., disappearance) through to 1990.

From the foregoing we observe that, contrary to our expectations there was in fact a move away from what we anticipated, from previous research, to be the corporate strategy associated with both the highest growth rate and company profitability.

TABLE 1.1

Corporate strategy of New Zealand listed companies, 1985-90

	No. of companies
Stable corporate strategy	
VLD	23
RD	3
UD	6
VHD	15
Change in corporate strategy	
RD to VLD	1
RD to VHD	2
UD to VLD	1
UD to VHD	1
VLD to UD	2
Total	54

Note: VLD=very low diversity; RD=related diversified; UD=unrelated diversified; VHD=very high diversity.

TABLE 1.2

Corporate strategy in 1985 of New Zealand listed companies, listed from 1980-85, but not surviving to 1990

Corporate strategy	*No.*	*%*
VLD	26	27.7
RD	26	27.7
UD	20	21.3
VHD	22	23.4
Totals	94	100.0

Note: VLD=very low diversity; RD=related diversified; UD=unrelated diversified; VHD=very high diversity.

One possibility that may explain our findings in this regard is that, contrary to our expectations - from Hamilton and Shergill (1992, 1993a, 1993b) - companies having a related diversification strategy during 1985-90 did not outperform companies with other corporate strategies during this period. Given that only three of the 54 companies listed on the New Zealand Stock Exchange (NZSE) from 1985 to 1990 were observed to have retained a related diversified strategy over that same period (refer Table 1.3), no statistical comparison can be made of the relative performance merits of this strategy compared to other corporate strategies. However, if we examine the performance impact of other corporate strategies (very low diversity, unrelated diversification and very high diversity) we find that none of these strategies appears to have any significant impact on corporate performance (refer Table 1.3). Table 1.3 shows regressions of corporate strategy and two control variables (firm size and leverage) on three performance variables. The companies included for analysis are those 47 which retained the same corporate strategy over the 1985-90 period, ie. the 54 firms listed between 1985 and 1990 less the 7 firms which changed their corporate strategy during that period.

Our constant term includes those three companies having the *related diversified* strategy for 1985-90. The null findings of this regression (note that the F-statistics are not significant) indicate that, *prima facie*, corporate strategy does not appear to be driving the financial performance of New Zealand listed companies. Also of interest is the lack of significance during 1985-90 of the two control variables, firm size and leverage, which Hamilton and Shergill (1992, 1993a, 1993b) had previously found to be significantly associated with financial performance. Hence, none of the traditional determinants of corporate performance appear to be important during the period

investigated. This is not intended as a criticism of previous research in this area. Rather these findings are reported to stress the importance of context in any study of corporate behaviour and performance, and to justify our study of other explanations of the patterns of corporate strategies adopted by New Zealand companies.

TABLE 1.3

Regression analysis of company performance, 1985-90

Independent variables	*Performance variables* ROA	ROE	G_SALES
Constant term	23.91	-10.70	-26.81
(t-values)	(2.41)	(-0.28)	(-0.39)
Very low diversity	-8.39	-17.05	34.09
	(-1.47)	(-0.76)	(0.86)
Unrelated diversification	1.10	-7.12	12.39
	(0.17)	(-0.28)	(0.27)
Very high diversity	-0.93	-2.89	11.71
	(-0.15)	(-0.12)	(0.28)
Firm size*	-0.71	2.71	3.98
	(-0.87)	(0.85)	(0.71)
Leverage**	-3.65	-14.16	-3.01
	(-0.48)	(0.48)	(-0.06)
Adjusted R^2	0.04	-0.02	-0.08
No. of observations	47	47	47
F-statistic	1.36	0.81	0.27
	(5, 41)	(5, 41)	(5, 41)

Notes: ROA=Return on assets; ROE=Return on equity; G_SALES=Growth in sales (all are averages for 1985 to 1990 inclusive).

* Firm size was measured as the natural logarithm of total tangible assets, averaged over 1985-90.

** Leverage was measured as (current liabilities+long-term liabilities+minority interests)/total tangible assets, multiplied by 100, and averaged over 1985-1990.

The question facing us then is: what does drive the strategy of New Zealand companies? One general explanation lies in the economic environment during 1985 to 1990, which was a time of economic liberalisation, in stark contrast to the pre-

1985 period which was characterised by wide-spread government intervention. It has been observed that post-1985, New Zealand moved from one of the "most regulated societies in the free world, to the world's freest market economy" (Passow, 1992, p.5). Furthermore, during this period unemployment rose rapidly and, with the depressed domestic economy, retrenchment and divestment strategies were more commonly pursued by New Zealand companies (Hamilton and Chow, 1993). It is possible that the turbulent economic environment during 1985-90 led to a situation where a strategy of related diversification was no longer best in terms of these performance outcomes. In this respect it has been observed that the strategy-performance relationship only holds in "growth" environments (Reger, Duhaime and Stimpert, 1992; Chenhall, 1984) which offer more scope for diversification. The turbulent economic environment may have led to a situation where goals of increased profitability and growth were replaced by the need merely to survive.

Another possible explanation of the corporate strategies adopted by these of New Zealand companies lies in corporate governance structures of these companies. For example, the New Zealand Institute of Directors comment:

> ... the directors constitute the link between shareholders and management. While the ultimate control of the company rests with shareholders ... the *responsibility for the strategic direction of the company, the determination of business objectives and the achievement of those objectives rests with the board* (*Institute of Directors*, 1991).

The emphasis added to the above quote gives one view of how governance can influence strategy. In particular we note that the role of the directors is that of determining a company's corporate strategy and ensuring that it is achieved. Generally, we can view corporate governance as power and influence over what a company does, ie., corporate strategy. Such influence on strategy may be *direct*, for example in the case where the major shareholder is also CEO and has selected the other board members, or *indirect* - for example where there is a major shareholder who is not represented on the board of directors, but can influence the board through the power held in terms of being able to select directors.

A decision was made early in this project to seek breadth coverage rather than a single narrow focus. This was done for two reasons. First, the broad-ranging nature of the issues under investigation, particularly governance. Second, the likely difficulty of sourcing original New Zealand data on any one front. A consequence of this is that this thesis seeks in the main to test the extension of overseas findings to

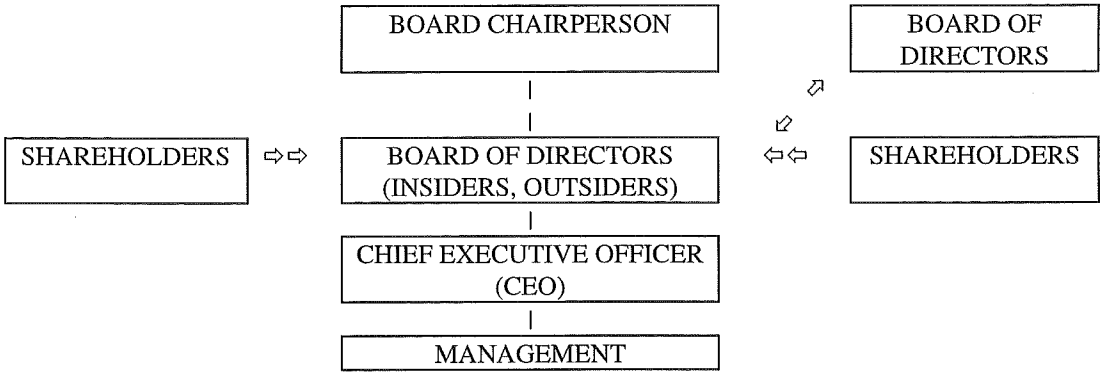
the New Zealand context. Hence, we provide a useful extension of overseas studies, but at the same time have the shortcomings of such studies. These shortcomings occur because we resort to the use of proxy measures of corporate governance. Because corporate governance is about intangibles such as power and influence, proxy measures of governance may fail to adequately capture the richness of the variables they seek to explain. We will now turn our attention to those individuals and groups which are considered to be powerful or influential in terms of corporate governance:

1.3 KEY "ACTORS" IN CORPORATE GOVERNANCE

There are several key "actors" in corporate governance. These actors and the relationships between them are shown in Table 1.4. The board itself is seen to be responsible to shareholders, who can through their shareholding stake have a say in who represents their interests (i.e., who sits on the board). Directors as a group have a *leader* (using the term loosely), namely the board chairperson. This person may also be the chief executive officer (CEO) of the company, in which case *CEO duality* (i.e., the holding of the dual role of chairperson and CEO) is said to occur. In the event that the CEO or another executive is board chairperson, we refer to this person as *executive chairperson.* Another possibility is that the board chairperson is a non-executive director, in which case we refer to them as *non-executive chairperson.* The board of directors, viewed as a group, is seen to comprise both *insiders*, who are serving executives of a company, and *outsiders*, who are not serving executives. Boards may also have common members, thus creating what are termed *interlocks* between companies.

TABLE 1.4

Corporate governance famework



There are several central issues in corporate governance. These are as follows:

- should the same person function in the dual role of CEO and chairperson? what are the implications of this for performance?
- what influences the size of a board of directors and does this matter in terms of performance?
- what determines the composition of a board (outsiders and insiders) and how does this affect performance?
- when managers are also major shareholders, do we observe differences in company strategy and performance?

Previous corporate governance research has tended to focus on two central elements of corporate governance. First, the ownership of corporations (Firth, 1992), and second the structure of boards of directors (Chandler and Henshall, 1982; Dalton and Kesner, 1987). Typically researchers have sought to relate these governance components with corporate financial performance. It appears likely that the plethora of studies in these areas has been in part prompted by the relative ease with which the necessary data can be collected.

However, more recently researchers have begun to explore the relationship between corporate governance and corporate strategy (Fox and Hamilton, 1994; Markides, 1992; Goodstein and Boeker, 1991). This line of inquiry is intuitively more

appealing than the governance-performance literature in several respects. Foremost among these is that corporate strategy has been demonstrated to be associated with corporate financial performance. In the event that corporate governance does influence corporate performance it is likely to do so through the decisions which boards make with regards the strategic direction of their companies. Hence examining this relationship directly (rather than assuming its existence from performance outcomes) is more sensible.

Furthermore, the relationship between corporate governance and corporate failure has received little research attention. This is hardly surprising given the focus of the corporate failure literature on the creation of financial models, which exclude the roles decision makers play in determining the success of their companies. While some attention has been paid to the role of managers (in particular chief executive officers and top management teams) in avoiding corporate failure, little attention has been paid to the board of directors. Needless to say, this is somewhat surprising given that directors are often deemed to be ultimately responsible for the strategic direction of the companies on whose boards they serve. In contrast, managers are typically charged with the execution or implementation of the corporate strategy.

Given all of this, a focus on corporate governance *per se* is relevant when examining corporate failure. It may well be the case that some governance structures are deficient in that they contribute to decisions being made which in turn lead to failure. In this respect the holding of the board chair position by the chief executive officer and having a board dominated by executive directors are often seen to lead to the pursuit of ends which are not in the interests of all shareholders (Daily and Dalton, 1993; Pearce and Zahra, 1992).

The determinants and performance consequences of board composition form other streams of literature in corporate governance. The latter is of particular interest given calls for governance reform which typically suggest that it is harmful for chief executive officers to hold the position of board chair and for boards to be dominated by executive directors. Given the importance of this issue and some lack of consensus in the literature, we conducted a meta-analysis of the board structure-performance literature. We also review the literature relating to the determinants of board composition in light of the possible effect that the selection of directors may have on corporate financial performance.

In addition to the aforementioned governance issues, there is a basic lack of data in New Zealand regarding corporate control. By *corporate control* we mean the ability/power through ownership to determine the strategic direction of a company.

In the United States, United Kingdom and Australia, institutional investors have played an increasingly active role in monitoring their investments in public companies and, more and more, in influencing the direction of these same companies. It is possible that the increasing prominence and active role played by institutional investors globally has also occurred in New Zealand.

1.4 THESIS STRUCTURE

The remainder of this thesis comprises eleven chapters, grouped into three main sections:

Section One

In *Chapter 2* we examine the relationship between corporate governance and corporate strategy, in particular focusing on major divestment decisions. *Chapter 3* then investigates the role that corporate governance plays in determining the survival or failure of companies.

Section Two

In *Chapter 4* we examine the board structure of New Zealand listed companies, and changes in this over time. Then, in *Chapter 5* we compare the board structure of New Zealand companies with those in other countries. *Chapters 6* and 7 investigate the performance consequences and determinants of board composition, respectively.

Section Three

Chapter 8 examines changes in corporate control and relates these to financial performance. *Chapter 9* investigates interlocks between boards. In *Chapter 10* we investigate changes in foreign control and the implications of these changes. And in *Chapter 11* we focus on institutional investment.

Finally, *Chapter 12* summarises this thesis and provides some directions for future corporate governance research.

Section One

Chapter 2

FROM CORPORATE GOVERNANCE TO CORPORATE STRATEGY

2.1 INTRODUCTION

In the introduction to this thesis we posited a direct causal connection from corporate governance through to corporate strategy. In this chapter we seek to confirm links between corporate governance and corporate strategy by studying changes in governance and subsequent strategic moves in the form of major divestments. These divestment moves had to be sufficient to cause a change in diversity. Such a divestment move would, for example, occur if a firm which was *unrelated diversified*, divested units to such an extent that it then was of *very low diversity*.

In the previous chapter we proposed that corporate failure was an unambiguous measure of corporate performance; likewise major divestment moves can be seen as unambiguous strategic moves, thereby giving us the opportunity to investigate corporate governance and corporate strategy in a meaningful way.

With but a few exceptions, noted below, strategy research has proceeded from the Chief Executive Officer (CEO) downward and concentrated on the outcomes of the strategy process, e.g., strategic choice, organisational structure, and financial performance. The emphasis here is on the inputs to the strategy decision-making process which occur at a level above that of the CEO. It is found that changes in corporate governance are indeed closely linked to divestment behaviour.

2.2 BACKGROUND TO THE RESEARCH

While there has been much research on aspects of governance and performance (Zahra and Pearce, 1989; Hunt, 1986), relatively little attention (Goodstein and Boeker, 1991; Boeker, 1989; Carroll, 1984) has been paid to the links between governance and corporate strategy, especially the divestment aspect of strategic

change.[2] Divestment is commonly viewed as a means of discarding unprofitable business units (Hamilton and Chow, 1993; Singh, 1993; Montgomery and Thomas, 1988; Duhaime and Grant, 1984; Vignola, 1974; Lovejoy, 1971). Another, but less researched, view of divestment is that it is undertaken in order to enable the divestor firm to focus on its core business (Hamilton and Chow, 1993; Markides, 1992). In this general regard, an aspect of corporate governance that has been examined is the effect of different ratios of insider to outsider (non-executive) directors on company boards. Zahra and Stanton (1988) in their study of 100 *Fortune 500* companies found that outsider dominated boards were associated with divestment decisions and board size was negatively correlated with divestments. Also, both the proportion of outside directors and the proportion of minorities on the board were positively correlated with divestments. In contrast, Goodstein and Boeker (1991) found that there was no association between increases in outsider representation on boards and divestment behaviour. Changes in the insider/outsider mix on a board of directors do not require any change in ownership or in the identity of the CEO. Bhagat, Shleifer and Vishny (1990) and Goodstein and Boeker (1991) do conclude that it is changes in ownership which are influential for divestment. Bhagat *et al*'s (1990) study examined divestitures over the three year period following hostile takeover of 62 companies and concluded that:

> In only 20 cases out of the 62 were there no quantifiable selloffs, and even in some of these cases ... there were selloffs, but we could not find the price ... It is absolutely clear from these data that selling off divisions is one of the most pervasive consequences of hostile takeovers (Bhagat *et al*, 1990, p.35).

Singh (1993) in his recent review of the divestment literature writes that there is "an indication of high levels of discretion available to corporate managers" (p.165). One means through which such discretion may be curtailed or removed follows changes in major shareholders. A new shareholder may bring in a new CEO and top management team, or monitor the performance of incumbent managers such as to reduce their discretion. Support for this occurring is provided by the management succession literature, which indicates that changes in CEOs and other top managers are more likely to occur if there has been a change in the identity of the major shareholder (refer Kesner and Sebora, 1994, for a review in this regard).

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[2] Numerous studies have examined the relationship between corporate governance structure and diversification, e.g., Amihud and Lev (1981), Lloyd, Hand and Modani (1987), Fox and Hamilton (1994).

Furthermore, there are a number of other reasons as to why ownership changes may be important in the divestment decision process. Perhaps one of the most compelling possibilities is that new owners, not having being involved in the original investment decisions are more ready to accept the poor performance of such investments, and then discard them. In contrast the previous owners appeared all too ready to continue involvement in the poorly performing divested activities. This can be viewed as a form of escalation of commitment, with the past owners hoping, against strong evidence to the contrary, that continued involvement and further investment would in itself lead to improved performance.

The literature outlined indicates that several governance variables may well play an important role in determining divestment behaviour. It is to this area which we now turn our attention in the context of New Zealand companies making divestment decisions.

2.3 RESEARCH DESIGN

2.3.1 Sample size

Resort to using a small sample was influenced by the need, following Boeker (1989, p.511), to obtain information on the detailed timing of the strategic decisions of interest (i.e., major divestments) in order to test theories about the prior events expected to be linked to divestment decisions. We believe that the use of a small sample will allow more detailed information to be gathered, albeit on a limited sample of companies.

Theory building was done using the five New Zealand listed companies that made a variety of major divestment decisions between 1980 and 1985, such that they reduced their diversity measure (refer below). These companies were contrasted with another (control) group of five companies that did not divest during the same period. Theory testing was done on a separate group of four companies, two of which divested during 1985-1990 and two which did not. That there were substantially fewer companies in the theory testing group is largely attributable to the comparatively lower number of companies surviving as listed companies between 1985-90 as compared to 1980-85.

A detailed diary of events was created for each of these 14 companies comprising: the key governance variables suggested by the literature (viz., ownership; board

composition; CEO identity); financial performance at each balance date; and the nature, timing, and declared rationale for any divestments. Theory building then involved a detailed comparison of divesting and non-divesting companies across the governance variables. Tables 2.1 and 2.2 give some summary information on the companies used for theory building and theory testing, respectively. Detailed information on the industry involvements of these companies, and - where relevant - changes in these, appear in *Appendix 2*.

It must be noted that our small sample approach is, in part, attributable to the difficulty of obtaining governance data generally, and ownership data in particular, for a large number of companies. Ownership is particularly difficult to determine because of the use of nominee companies to acquire and hold shares.

TABLE 2.1

Sample of companies, 1980-85 (theory building)

Divestors	*Total tangible assets ($ millions in 1980)*	*Corporate strategy, 1980 and 1985*
ABACUS	2.6	VHD to UD
Angus	10.8	VHD to UD
Atlas	27.0	VHD to RD
Hutton's	8.9	UD to VLD
Tolley	29.7	RD to VLD

Control companies	*Total tangible assets ($ millions in 1980)*	*Corporate strategy, 1980-85*
Dingwall and Paulger	7.6	RD
Firestone	32.6	VLD
Golden Bay Cement	50.8	UD
John Webster	5.3	RD
PDL Holdings	16.8	VHD

Note: VLD=very low diversity; RD=related diversified; UD=unrelated diversified; VHD=very high diversity.

TABLE 2.2

Sample of companies, 1985-90 (theory testing)

Divestors	*Total tangible assets ($ millions in 1985)*	*Corporate strategy, 1985 and 1990*
Parapine	4.3	RD to VLD
Waste Management	11.2	UD to VLD

Control companies	*Total tangible assets ($ millions in 1985)*	*Corporate strategy, 1985-90*
Colonial Motor	79.5	UD
Sanford	47.3	UD

Note: VLD=very low diversity; RD=related diversified; UD=unrelated diversified; VHD=very high diversity.

2.3.2 Data sources

Any detailed research on aspects of, or changes in, corporate governance presents major data problems particularly with regard to changes in ownership - changes in board composition[3] and CEO are, of course, more conspicuous. There are no available data sources for New Zealand company ownership prior to 1980. For the 1975-80 period, the researcher had to source the necessary information from Stock Exchange announcements; business and daily newspaper reports; and, in some cases, by direct contact with individuals who were company directors during this period.

Matters improve for 1980 onwards where the *Directory of Shareholders: New Zealand Public Companies* was used along with company annual reports. The timing of changes in the identity of a major shareholder; board composition; and divestment moves were confirmed through detailed scrutiny of Stock Exchange announcements, supplemented as necessary by cross-reference to business and daily newspaper articles. Motives for divesting and multiple measures of financial performance (return on sales; real growth in sales; real return on assets; and growth in assets) were extracted from publicly-available sources, mainly company annual reports. Product range information was also taken from company reports, supplemented by trade and

[3] By changes in board composition we simply mean changes in the identity of who sits on a board.

business directories. In a number of cases where these secondary sources were insufficient, the company was contacted directly to ascertain its range of activities. These companies were willing to supply the information we sought.

2.4 THEORY BUILDING

2.4.1 Measuring corporate strategy

The strategic variable of interest was the degree of diversity of major New Zealand companies, measured using the product-count procedure developed by Varadarajan and Ramanujam (1987), an approach validated for New Zealand companies by Hamilton and Shergill (1992, 1993).[4] The study used companies listed on the New Zealand Stock Exchange in either or both of two time periods (1980-85 and 1985-90). At the beginning and end of each period, companies were classified as having one of four levels of diversity: *very low*; *related*; *unrelated*; or *very high*. Companies that moved between these categories by reducing the level of diversity in their corporate strategy were identified for in-depth study. There were five such firms in 1985-90 and two in 1985-90. In addition, companies which made no change to the level of diversity in these periods were identified and used to form a control group for the study of divestors. Members of this control group were also required to be active in more than one four-digit industry to ensure that they indeed had the scope to reduce their diversity.

We originally hoped that a matched pair research design would be possible; whereby we could select control companies that would be similar to divesting companies at the start of each period of interest (1980 or 1985) in terms of both extent of diversity and firm size. However, because of the small number of companies which met our requirements that they have no change in their level of diversity and be involved in more than a single industry, we were not able to use a matched pair design.

2.4.2 Motives for divestment

We proceed from the premise suggested by previous research (Porter, 1987; Ravenscraft and Scherer, 1987) that managers do not enjoy the connotations of failure associated with divesting. This is particularly likely to be so if the self-same managers had been involved in the original decision to invest in the assets in question (Staw and Ross, 1986; Staw, 1976). This suggests that whenever possible managers

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[4] Refer *Appendix 1* for an overview of this classification scheme.

will seek to control the timing of a divestment to enable them to deflect the blame on to other individuals or events that are beyond their direct control.

To illustrate how this process works in a real situation, consider the 1984 divestment of its cable manufacturing division by Tolley Ltd, then a medium-sized listed company. Consider the following extracts of the period:

> The [divested division] had been more often than not a drain on the group profits, even in good years when it has not performed as well as the sizeable investment there suggests it should have done (*Headliner*, September 1984).
>
> The decision to sell... follows [the major shareholder's] own decision to move out of Tolley's. ... It was through this shareholding that it dominated the business of [the divested Division] being the major force in the subsidiary (*Headliner*, September 1984).

It is clear that this Division had been under performing for several years, long enough for its performance to be observed over at least one business cycle. Nothing was done to improve performance but the exit of a strategic shareholder presented an opportunity to divest the Division while deflecting attention away from the years of under performance which, on their own, proved insufficient to provoke divestment.

As a second demonstration of this process at work, consider the 1983 divestment of retailing operations by Abacus Group Ltd. The company's 1983 Annual Report offers the following basis for divestment:

> There was a significant administrative overhead attached to the number of separate businesses the Group was operating in which could be substantially reduced by a consolidation of Group activities (Annual Report, 1983, p.4).

However, the divestment decision was made with reference in the same Annual Report to the fact that "the growth potential in retailing was limited in the present economic climate" (p.4). Managers created a situation of excessive overhead which was only dealt with in the context of an adverse economic climate (not their fault) forcing them to divest. In other words, given a more favourable economic climate, the consolidation may not have been undertaken to the same extent, if at all.

Atlas Majestic divested its poultry operations around 1980. Poor performance of these operations had been mentioned in Annual reports for several years prior to the

divestiture. For example, the 1979 Chairman's Review stated that: "[the poultry operation] was marginally profitable in the year" (p.6). However, two external factors, namely difficult trading conditions and an "act of god" were given as the reasons for divestiture:

> Difficult trading conditions adversely affected (poultry) operations a disastrous fire gutted the processing plant. Not only was the plant out of action for several months, but the effects on the other integrated operations at Clinton Park - the breeding farm and hatchery were serious. After much careful deliberation, a decision was made to sell the land, buildings and plant (Director's Review, 1980).

Hutton's meat processing operations also had a long history of poor performance. For example, Hutton's 1978 Chairman's review comments that:

> The directors must report that the costs at the Petone plant created problems for the company and in fact meat processing created a loss which reduced the satisfactory profits in other divisions (p.3).

Hutton's made such losses that it felt it was "forced"[5] to sell the meat processing operations, the alternative being liquidation. This is illustrated in the following report of the sale of the freezing works in the 1980 annual report:

> The action of The Hawkes Bay Farmers' Meat Company Limited in buying Gear Meat Processing Limited saved the Company from substantial potential costs of closure and possibly a forced liquidation ... [they] have, by their action, saved Gear Meat Company from being extinguished (1980 Chairman's Review).

The divested operations of Angus also exhibited poor performance over a number of years. Take, for example the following comment:

> Gross profit, down by nearly 15% was eroded by the loss of sales, increased competition for a diminished market, cost increases we could not pass on and, in comparison with last year, a lack of inventory profit (albeit illusory) resulting from price increases (Managing Director's Review, 1983, p.4)

Angus' gives factors associated with the environment as the reason for its major divestment, namely Scott Commercial:

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[5] "Last year we wrote off our investment in Gear against the background of the substantial losses which had been incurred and the forced sale of the Petone freezing works" (Annual Report of one of the joint major shareholders, 1981).

> ... as a wholesaler of products manufactured largely by its competitors it frequently lost clients who sought direct access as a means of holding costs.
>
> Coupled with this, the cyclical nature of the broad sector and its lack of future growth prospects pointed to the need for rationalisation as a means of maintaining profitability.
>
> As Scott Group is a relatively small operator in the field and perceived little advantage in attempting to vertically integrate back into the areas that it got its supplies from, it was decided in the long-term benefits of the Group would be best served by re-establishing in another area where there was growth and where some degree of influence could be achieved (Managing Director's Review, 1983).

From the above we generated the following propositions:

Proposition 1: Divested activities will have a history of poor performance over a number of years.

Proposition 2: Divestments will be explained as occurring due to individuals or events beyond the control of incumbent managers.

2.4.3 Ownership

The findings of Bhagat *et al* (1990) and Goodstein and Boeker (1991) suggest that divestments are typically preceded by a change in the identity of the major shareholder. This is supported by the detailed case evidence drawn on here with such a change being observed in all the divesting companies but in none of the non-divesting control group. The details of the ownership changes for the divesting companies are presented in *Appendix 4*.

Only one company (Tolley) pointed to change in ownership as a direct reason for divesting, citing the loss of technical support from the previous major shareholder. Elsewhere the nature and extent of ownership changes are rather more difficult to observe. In the case of the Abacus Group, there were three changes in ownership with the first and second only six months apart. Divestments followed the second and third ownership changes. For Hutton's, there was in fact no major shareholder prior to 1979, at which point restrictive voting provisions were removed. This changed the balance of ownership as the two companies jointly holding the majority

of the shares were thus enabled to exercise voting rights in proportion to their shareholding. In the case of Angus a hostile takeover occurred with Tatra industries gaining 51 per cent of voting capital in June 1983. Shortly thereafter the decision was made to divest Angus' largest subsidiary, Scott Commercial. A further three divestments were made by April 1984.

The case of Atlas illustrates the difficulty in identifying changes in ownership and relating these same changes to divestment moves. Between January and October 1980, interests associated with Messrs Bidwill and Gibbs obtained as much as 30 per cent of issued voting capital (*Headliner*, 1981, p.3). Prior to this period the major shareholder was an insurance company which had no board representation. An indication of likely shareholding influence of Messrs Bidwill and Gibbs is given in April 1980 when the CEO of Atlas was replaced by a management board, consisting of Gibbs, Bidwill and the incumbent board chair. Subsequent to this management board taking control several major divestments occurred (refer *Appendix 4*).

In contrast to the changes in ownership we observed among divesting companies we find that none of the control group of companies had a change in the identity of their major shareholder (refer Table 2.3).

TABLE 2.3

Percentage of shares held by major shareholders in non-divesting companies

Company	*1975* %	*1980* %	*1985* %
Dingwall & Paulger	N/A	38.2	50.5
Firestone	83.3	83.3	83.3
Golden Bay Cement	45.8	45.9	75.2
John Webster	N/A	27.1	33.9
PDL Holdings	70.0	60.7	56.9

Notes: There was no change in the identity of the major shareholder of any of these companies over the period in question. Dingwall and Paulger was not listed in 1975; at this time the major shareholders were the same as those in 1980 and 1985.
N/A=Not available

From the above analyses we propose that:

Proposition 3: The proportion of companies divesting under new owners will be higher than under continuing ownership.

2.4.4 Changes in Board composition

We find that divesting companies tend to have changes in board composition following ownership changes, but before divestment moves (refer *Appendix 4*). This is what we would expect from the earlier findings of Goodstein and Booker (1991).

In the case of Tolley it was clear that the removal of directors following a change in ownership was sufficient to prompt a decision to divest. The directors that left represented the outgoing major shareholder, leaving Tolley without valuable technical support.

In all but the case of Tolley, the new major shareholder, if not already a member of the board of directors, was appointed a director shortly after taking voting control. In two of the seven changes in ownership observed in total, the new major shareholder was already on the board of directors and held the position of Managing Director.

Given the foregoing case analysis we propose that:

Proposition 4: Changes in the ownership of divesting companies will lead to changes in board composition of these companies.

2.4.5 CEO changes

If we examine changes in CEO between the time of a change in ownership and divestments being made, it is evident that there is no pattern in terms of new major shareholders assuming management control. This is consistent with Markides' (1992) finding that a change in CEO has "no effect on the decision to refocus" (p.96). In the case of Tolley, a holding company, there was no overall CEO, and as mentioned above the new major shareholder did not elect to gain board representation. In another case, Angus, the incumbent CEO was retained.

In the case of ABACUS where there were three changes in ownership, two of these changes involved the sale of shares to the Managing Director, who then continued in this role. In the third instance, the new majority shareholder seconded one of their executives to succeed the incumbent managing director. An indication of active involvement in the strategy determination of the company by one of these new major shareholders is given by the following quote:

> In many respects it has been a significant period in the development of British Office Supplies. The founders of the company ... disposed of their

> shareholding during the year and subsequently retired from the board. A major new shareholder ... has become actively involved in the direction of [the company] (Director's Report, 1982).

In the case of Atlas an unusual situation developed with the incumbent CEO been ousted by a management committee consisting of the Chairman and the two individuals who were the new joint major shareholders. The role of this committee in restructuring Atlas is illustrated by the following quote:

> ... a Board of Management was established to give executive direction to the operations of the Company and to deal with the most serious problems of reduced demand, over-production and liquidity ... The Board of Management has determined the likely effects of changes in the economy, industry structure, imports, exports, inflation and technical developments may have on the company. Taking these factors into account, they are well advanced in an appraisal of the future earnings capacity of the Company's assets and where a reasonable return cannot be achieved in the foreseeable future, assets concerned will be realised (Directors' Review, 1980).

In the case of Hutton's one of the joint major shareholders assumed management control following the forced sale of the company's major asset.

Table 2.4 shows the changes in CEOs that occurred for non-divesting firms. We can see from this that the stability in ownership structure of these firms is not reflected in stability in the top executive office.

From the foregoing analysis we derived the following proposition:

Proposition 5: There is no association between changes in CEO and divestment decisions.

TABLE 2.4

CEO changes in control group*

Company	*Time*	*Nature of change*
Dingwall & Paulger	1978-80 1982 1982-3	New MD, internal appointment New GM, internal appointment New CEO; retired M.D. comes out of retirement
Firestone	1979-80 1986-87	New Executive Chairman appointed from the company of the new major shareholder New Executive Chairman, an internal appointment
J. Webster	1980-81	New CEO, an internal appointment. Succeeds Executive Chairman who remains Chairman
PDL	1982-83	New MD, an internal appointment

*One company Golden Bay Cement retained the same CEO between 1975 and 1985

2.5 THEORY TESTING

From the theory building undertaken above we propose that companies which make divestment decisions of such magnitude to alter our measure of their corporate strategy will follow the pattern illustrated in Table 2.5.

In addition to summarising the results of our theory building, Table 2.3 also shows the general results of our theory testing. This theory testing forms the basis of the following sections of this thesis. We are seeking to test the validity of propositions made in the previous section with reference to the two companies that refocussed between 1985 and 1990 (Genestock and Waste Management), which are contrasted with two companies that had no change in their product diversity over this period (Colonial Motor and Sanford).

TABLE 2.5

The divestment process

		1980-85		*1985-90*	
Proposition	*Proposition suggests ...*	*Divestors (5 companies)*	*Control companies (5 companies)*	*Divestors (5 companies)*	*Control companies (5 companies)*
P1	History of poor performance	Y	N/A	Y	N/A
P2	Not managers fault	Y	N/A	Y	N/A
P3	Ownership change	Y	N	Y	N
P4	Change in board composition	Y	N	N	N

Note: Y=yes; N=no; N/A=not applicable.

2.5.1 Performance

A history of poor performance of Genestock's divested operations is clearly evident, with the company as a whole making large, and unexpected, losses in its initial years of operation:

> ... operating returns in the first year of development were inadequate because of the sudden and dramatic downturn in the beef industry and a longer than planned development of pastures for the dairy operation. Considerable discussion was made with partners before a decision was made to terminate the investment ... The New Zealand dairy farm ... was closely related to the development of the United States farming strategy, and became uneconomic once the investment in America was terminated. The sale of the farm came at a time when the market was depressed and likely to remain so in the foreseeable future (Chairman's Report, 1986).
>
> ... early in January 1987, independent sales of goats dropped dramatically in price and orders for technical services began to evaporate.
>
> The directors recognised that reorganisation of capital and general operations were immediately necessary. The main administrative office was closed in April this year and resources combined at the laboratory. The technical services division was sold in May ... While this operation has shown the wisdom of a planned breeding programme to produce high genetic quality stock, the values in the market have continued to decline ...
>
> The holding costs of this operation outweigh the medium and long term benefits so directors have accepted a management recommendation to dispose of this major asset [goat farming].

Poor performance over a number of years is also evident for the major divestment made by Waste Management, as is illustrated by the following quotes:

> Like many New Zealand companies the high US$/NZ$ exchange rate has made it very difficult to achieve satisfactory profits on export orders (Managing Director's Review, 1986)
>
> Carbonic Industries ... once again had a disappointing year (CEOs comment, *Press*, January 1987)

The above quotes clearly support *proposition 1*, which held that divested activities would have a history of poor performance. We also note from the above quotes relating to Parapine and Waste Management that events beyond the control of management are portrayed as being important, thereby supporting *proposition 2*.

2.5.2 Ownership

As expected from the theory-building discussion, the refocussing companies did indeed have changes in the identity of the major shareholder prior to divestment decisions being made (refer *Appendix 4*).

The role that changes in ownership played in influencing refocussing within each company is illustrated by the following quotes:

> The directors advise that [three individuals] jointly hold 50% of the issued shares in the company. [One of these individuals] has been appointed to the Board and discussions will be held this week between the directors as to the companies future plans (Waste Management, Stock Exchange Announcement, 1 April 1986).
>
> For [the new major shareholder] the aim is to help restructure the company so that it has a wider base. [The CEO of the new major shareholder] said that as a shareholder [they had] a number of ideas as to how this can be achieved but the company will not be involved in the day-to-day running of Genestock (*National Business Review*, March 28 1986).
>
> The directors advised at this time that this undermined the security provided to secured creditors. The company sought the assistance of merchant bankers, Fay Richwhite, at the time 30% shareholder, to provide financial advice to the company and assist with reorganisation.

One of the non-divesting companies, Colonial Motor, had no change in the identity of the major shareholder from 1980 to 1990. The other, Sanford, had no change in the identity of the major shareholder between late 1983 and 1990. Thus *proposition 3* is supported, indicating that a change in ownership is an important precursor to major divestment moves, and stable ownership is associated with a similarly stable corporate strategy.

2.5.3 Board representation

In the case of Waste Management the changes in ownership resulted in changes in board composition, with representatives of the new major shareholders being appointed to the board (refer *Appendix 4*). Furthermore following the first change in major shareholder, one of the new joint major shareholders was appointed Managing Director.

In the other refocussing firm, Genestock, the new major shareholder did not gain board representation. However, major changes in board representation did occur;

Genestock had one director resign between 1985-86 and two directors resign between 1987-88. These last mentioned resignations took place following the final divestment moves made by Genestock. The latter two resigned as "the duties of directors reduced with the sale of the company rural assets" (1988 Annual Report). Thus we have an unexpected scenario where a new owner played a role in restructuring the company, leading to involvement in fewer areas, and consequently less need for some directors expertise. This is contrary to our expectations that major changes in board composition would occur prior to divestment moves being made. Therefore, *proposition 4* is refuted, leading us to conclude that changes in board composition are not a necessary to major divestments.

2.6 DISCUSSION AND CONCLUSION

As we mentioned earlier in this chapter, Singh (1993) has commented on what he sees as high levels of discretion available to corporate managers. From the companies examined in the present study, ownership changes appear to be the necessary driving force behind divestment decisions. In particular, a change in the identity of a major shareholder seems to be a necessary prerequisite to the divestiture of poorly-performing activities. One of the reasons for that ownership changes may be important is that new owners, not having being involved in the original investment decisions are more ready to accept the poor performance of such investments, and then discard them. In contrast the previous owners appeared all to ready to continue involvement in the poorly performing divested activities. This can be viewed as a form of escalation of commitment, with the past owners hoping, against strong evidence to the contrary, that continued involvement and further investment would in itself lead to improved performance. It should however be noted that our results should be treated as indicative only. The sample size is necessarily small, and some information with regards the control companies was not readily available. A shortcoming of the present study in this regard is that we do not know if the control group had units that would be divested given a change of ownership.

Our findings are consistent with previous evidence from large sample quantitative research, notably Bhagat *et al* (1990) and Goodstein and Boeker (1991), but give a more coherent and richer picture of the whole divestment process, whereby both performance and ownership play key roles in determining what action, if any, will be taken in terms of the corporate strategy pursued by companies.

Possibly our most interesting finding was that *proposition 4* was not supported, i.e., changes in board composition were not a necessary prerequisite to major divestments. It appears, therefore, that major shareholders can wield considerable influence, if they so desire, without gaining board representation. One possible reason for this is that major shareholders typically have the ability to dismiss incumbent directors. The threat, or possibility, of such action may lead to a new major shareholder having a more-or-less compliant board, through which they can exert their influence with regards the company's strategic direction. Needless to say, associations between ownership, board representation and corporate strategy provide an interesting avenue for future research.

Chapter 3

CORPORATE GOVERNANCE AND CORPORATE FAILURE

3.1 INTRODUCTION

Numerous studies have explored the relationship between corporate governance and corporate financial performance (refer Zahra and Pearce, 1989). In contrast, only a few studies have looked at corporate governance and corporate failure (Daily and Dalton, 1994a, 1994b; Gales and Kesner, 1994; Sheppard, 1994b; Hambrick and D'Aveni, 1992; Chaganti, Mahajan and Sharma, 1985). It is surprising that more studies have not examined the governance-failure relationship, especially when we consider the often equivocal results of the governance-performance literature. Such equivocal findings may be attributable to problems in the definition and measurement of performance. In this regard, corporate failure can be seen to provide a more precise measure of a company's ultimate performance.

By looking at companies at two extremes - those that survive and those that fail - we may gain greater insights into which, if any, governance variables are important in avoiding corporate failure. Increasing our understanding of the relationship between corporate governance and corporate failure is the purpose of this chapter.

In the next section we review, first the literature relating to corporate governance and corporate failure and, then, the literature relating to other causes of corporate failure.

In section three we discuss the sample used to test various hypotheses generated in the literature review. We then proceed, in section four, to present the operationalisation of the variables of interest. Section five presents the results of our analysis and a discussion thereof. Finally, section six concludes this chapter.

3.2 LITERATURE REVIEW

The role of corporate governance in corporate failure has been largely neglected, with previous studies of corporate failure invariably seeking to create financial models

using financial ratios of liquidity, leverage and profitability among others (Ohlson, 1980; Moyer, 1977; Altman, 1973). Several authors have highlighted the shortcoming of these financial models. Take, for example, the following comments:

> Going bust is a financial phenomenon - plainly so, painfully so - but failure does not start this way, it only becomes financial as it moves to the penultimate phase (Argenti, 1986a, p.157).

> Despite the accuracy that can be achieved with these models, the financial approach has been criticised for its inability to predict failure in sufficient time to prevent bankruptcy ... In essence, this approach begs the issue of how the firm got into financial trouble in the first place (Daily, 1994, p.270).

Deficiencies in the governance of corporations may well provide one possible explanation for corporate failure. In fact, previous research lends some support to there being a corporate governance-failure relationship (refer Table 3.1).

In the following sections of this chapter we examine various governance variables and role they may play in determining corporate failure. We then turn our attention to several other factors that may contribute to corporate failure.

3.2.1 Corporate governance and corporate failure

In this section we examine the major corporate governance variables that may contribute to corporate failure. These factors include, board size, representation by non-executive (outsider) directors on boards, CEO duality and ownership.

3.2.1.1 Board size

Two explanations have been given to explain why board size may be related to corporate performance. The first explanation takes a resource dependence view, whereby directors are seen to link the company with resources from its environment. This role is seen to be particularly important in times of corporate decline, when the necessity for corporations to co-opt resources from their environments is inevitably heightened. Companies with smaller boards are seen as being more likely to fail; a small number of board members is believed to indicate an inability - or lessened ability - by the firm to co-opt resources from its environment that are necessary for survival.

TABLE 3.1

Previous studies of corporate governance and corporate failure

Study	*Sample*	*Board size*	*CEO Duality*	*#_OUT*	*P_OUT*	*P_AFFIL*	*M_OUT*	*Dual x #_OUT*	*Dual x %_OUT*
Chaganti, Mahajan and Sharma (1985)	21 matched pairs of failed and not failed retailing firms	-	none		none		none		
Hambrick and D'Aveni (1992)	57 matched pairs of *Dun and Bradstreet* companies in three industry sectors (manufacturing, retailing and transportation)			-					
Gales and Kesner (1994)	127 matched pairs of bankrupt and nonbankrupt firms	-		none	none				
Sheppard (1994b)	Matched pairs of 23 failed and 23 surviving firms for each of the five years preceeding bankruptcy				none				
Daily and Dalton (1994a)	50 publicly held firms that filed for bankruptcy during 1990 and 50 matching nonbrankrupt firms		none	none	none			none	+
Daily and Dalton (1994b)	As for Hambrick and D'Aveni (1992)		+			+			+

Note: + denotes possitively associated with failure; - denotes negatively associated with failure; *none* denotes not associated with failure.
N_OUT=number of outsiders; P_OUT=Percentage, or proportion of outsiders; M_OUT=majority of outsiders on board; Dual x OUT=interaction effect of CEO duality and number of outsiders on board; Dual x P_OUT = interaction effect of proption of outsiders and CEO duality; P_AFFIL=proportion of affiliated directors

The second explanation for a board size-corporate performance relationship concerns centralisation of control. Here, an important factor is the extent to which the CEO can influence the board. In this regard, it has been proposed that "larger boards are not as susceptible to managerial domination as their smaller counterparts" (Zahra and Pearce, 1989, p.309) and, in particular, that CEOs are more likely to dominate smaller boards (Chaganti *et al*, 1985). Hence, we expect that a company with a smaller board is more likely than one with a larger board to fail. This is because the CEO and/or other executives may have more scope to pursue strategic decisions which go unchecked by directors having some degree of impartiality. The strategic decisions adopted by dominating, or autocratic, CEOs have been shown to - in some instances - lead to corporate failure (Miller, 1990). The reason for this is typically viewed to lie in the personality of such dominating CEOs. For example, Kets de Vries and Miller (1985) talk about narcissistic CEOs who pursue corporate strategies in an effort to satisfy their own egos, but at the expense of the companies they manage.

Each of the above theories points to the following hypothesis:

H1: Companies with smaller boards will be more likely to fail than will companies with larger boards.

Board size is a proxy for intangible variables such as CEO influence and resource dependence. As such, it is possible that board size may not adequately capture the richness of these intangible variables it seeks to represent. However, it is hoped that the use of this proxy variable - and the others discussed below - will give some indication of the variables of interest.

3.2.1.2 CEO Duality

CEO duality is usually deemed to occur when the board chair of a company is also its chief executive officer. Those arguing in favour of CEO duality adopt the argument that duality leads to increased effectiveness, which will be reflected in improved company performance. CEO duality is seen to result in a situation where there is a clear leader of the organisation and where there is no room for doubt as to who has authority or responsibility over a particular matter (Donaldson and Davis, 1991, Anderson and Anthony, 1986). Given this, it has been proposed that separation of board chair and CEO roles "is guaranteed to produce chaos both within the organization and in relationships with the board" (Anderson and Anthony, 1986, p.54). In the event that such "chaos" does ensue, it would be likely that this would

have a detrimental effect upon the formulation of corporate strategy and the responsiveness of the company to changes in the external environment. Both of these factors could potentially contribute to corporate failure.

In comparison to arguments in favour of CEO duality, more compelling and numerous arguments have been proposed against this structure. In particular, those arguing against CEO duality typically propose that it leads to a situation where the governance role of the board of directors is compromised. The argument against CEO duality is aptly put in the following quote:

> In a company where the chairman is also the CEO ... power concentrated in one individual and possibilities for checking and balancing powers of the CEO ... are virtually eliminated. In such a corporation, the board may not be able to function as an independent body - independent from the influences of top management (Chaganti *et al*, 1985, p.407).

As we mentioned above - in relation to CEO dominance - board independence may be critical in ensuring that a CEO does not follow strategies which are detrimental to corporate survival.

Aside from the above argument it is also proposed that the separation of CEO and board chair roles is necessary because one person cannot perform both roles effectively. Stewart (1994) in her study of the relationships between board chairs and CEOs comments that "both the chairman and general manger have a distinctive domain" (p.523).

A further argument for separating the roles of chairperson and CEO concerns the relative role expectations on each. In contrast to the CEO, who is involved in the day-to-day management of the company, the board chair "is often involved in special planning assignments, in policy review and formulation and in public and stockholder relations" (Chaganti *et al*, p.408). It is likely that, given his or her day to day executive commitments, the CEO will not be able to effectively perform the additional roles of chairperson. This is likely to be particularly so during times of crisis. Furthermore, some of the benefits which the CEO can obtain from having a chairperson will inevitably be absent when the roles are combined. For example Stewart (1991, p.522) has highlighted several roles of chairpersons, including mentoring (acting as a coach and counsellor positively seeking to influence the [CEOs] behaviours), and consultant (giving advice to the CEO and other directors).

Hambrick and D'Aveni's (1992) study, although it does not directly examine CEO duality and failure, also indicates that CEO duality may be undesirable in ensuring corporate survival. These authors comment that:

> Possibly the most widely observed characteristic of failing top management teams is the presence of dominant CEOs, or autocrats. Argenti (1976), Miller and Friesen (1977) and Ross and Kami (1973) all found evidence of strong-willed, dominating, often egomaniacal chief executives at the helms of unsuccessful firms. Such leaders may be wedded to the wisdom of their own views, may greatly discount or stunt the potential contributions of subordinate team members, and drive subordinates away in frustration (Hambrick and D'Aveni, 1992, pp.1450-1451).

Hambrick and D'Aveni's (1992) study of 57 bankrupt firms and 57 matched survivors found that CEO dominance - operationalised as the ratio of the CEO's cash compensation to the average compensation of other members of the top management team - was a significant predictor of bankruptcy. Hambrick and D'Aveni's (1992) sample was also used by Daily and Dalton (1994b), which found that CEO duality - which can be seen as another measure of chief executive dominance - was a significant predictor of bankruptcy. CEO duality can be seen as one means by which chief executive officers can wield greater control over the direction of companies and, in particular, over those persons also charged with determining the future direction of the company (other directors) and achieving the objectives of the company (other executives). It is therefore not surprising that Hambrick (1991) sees CEO duality as a means of power hoarding, which has in turn been linked to inferior corporate performance (Miller and Friesen, 1977).

One argument proposed for the separation of CEO and chairperson roles is that - in the case of a poorly performing company - "it is not immediately clear what process would be relied on to remove CEO/board" (Daily and Dalton, 1994a, p.645). This is because the CEO who is also board chair is assumed to have a board which largely defers to him or her. Interestingly, research by Harrison, Torres and Kukalis (1988) indicates that it is more difficult to replace either the CEO or board chair when these roles are separated, than when the two roles are held by one individual.

Taking an agency theory perspective, Daily and Dalton (1994a) propose that separating the roles of CEO and chairperson "reduces the opportunity for the CEO and inside directors to exercise behaviours which are self-serving and costly to the firm's owners" (p.645).

Another argument against CEO duality is that it lessens organisations ability to adapt to change (Daily and Dalton, 1994a). In this regard, Argenti (1986b) gives autocratic leadership and CEO duality among the management defects which can contribute to eventual failure:

> An autocratically run company that also has not responded to change is plainly in jeopardy, for it means that the autocrat himself has almost certainly failed to notice how the world has changed. He is the company: if he has not understood some new trend in the business environment then the company is doomed. It might not happen for years, or it might be tomorrow. It only needs some stroke of bad luck to expose the fatal flaw that his company has been allowed to develop (Argenti, 1986, p.101).

Lorsh and MacIver (1989) also propose that separating the roles of CEO and chairperson has compelling benefits, including increasing a board's ability to prevent crisis and enhancing the ability of the board to act quickly during times of crisis.

The above arguments tends to support the following hypothesis:

H2: Failed companies will be more likely to have CEO duality compared to surviving companies.

As with board size, CEO duality is a proxy measure for intangible variables such as CEO power or dominance, role expectations and the ability to respond to crises. The intangible nature of these variables may lead to CEO duality being an imprecise proxy, but in the absence of better developed measures - and given the convenience of CEO duality in terms of data collection - we adopt its use in this study.

3.2.1.3 Outside directors

As with the CEO duality debate it is often proposed that inside directors cannot be relied on to impartially monitor their own performance. In contrast, outsiders are seen to be independent, and therefore impartial, as well as benefiting a company by representing alternative perspectives and enhancing the expertise of directors in general (Zahra and Pearce, 1989).

Sheppard (1994b) proposes that outside directors "provide an indicator of the board's orientation toward its external environment ... and thus its ability to respond to change" (p.801). The inability to respond to change is one of the major causes of corporate decline (Miller, 1990). It therefore appears reasonable to propose that corporations having fewer outside directors will be less able to perceive and respond

to change in the external environment, and therefore be more likely to fail. As Pfeffer and Salancik (1978) note, increased environmental pressure means that organisations will require more support from outside constituencies. One means by which such support can be gained is through outside directors and their network of contacts (Borch and Huse, 1993).

The turnaround literature indicates that replacement of top management is a major prerequisite for major strategic change. In the New Zealand context, Addison and Hamilton (1988) found that the top ranked turnaround strategy was to change top managers (used in 77 per cent of turnarounds). Also, Grinyer, Mayes and McKiernan (1990) found that 85 per cent of their "sharpbenders" - which were defined as "companies, of different sizes, that have been in relative decline with regard to their industry and have managed a sharp and sustained recovery" (p.116) - instituted major changes in management.

One of the advantages of outside directors is that, in contrast to inside directors, they are more able and willing to support changes in top management. In this regard Boeker (1992) found that boards with a higher proportion of outsiders were more likely to dismiss CEOs of poorly performing companies. As Daily (1994) comments "outside director do not operate under the same constraints as inside directors. This may be especially true in crisis situations where outside directors may be more able to exercise control in organisations" (p.284). We therefore expect that having more outside directors on a board is advantageous in that it increases the likelihood that poor performing managers will be removed during crises; thereby, possibly avoiding failure.

Those arguing in favour of having a board dominated by outside directors propose that the independence of inside directors is open to question. One role of the board is to monitor and evaluate top management. In this respect, insiders directors are seen to be in a position to serve their own best interests.

Studies of corporate governance and failure have tended to use the proportion of outside (or inside) directors as the independent variable. Daily and Dalton (1994a) - while accepting the value of this measure when corporate control is being evaluated - propose that it is more appropriate to use the number of outside directors in evaluating resource dependence theory. These authors note that:

> It seems that - especially in crisis - the firm needs as many outside representatives on its board as it can garner to provide access to as many

> valued resources and as much information as possible (Daily and Dalton, 1994a, p.646).

There is evidence that boards with higher proportions of outside directors are more involved in strategic decision making (Judge and Zeithaml, 1992) and are more likely to be involved in strategic restructuring (Johnson, Hoskisson and Hitt, 1993). These findings indicate that outsider representation on boards will be associated with efforts to prevent corporate decline (Daily and Dalton, 1994b, p.1606).

As we can see from the preceding arguments there are rather compelling arguments in favour of outside directors. However, some arguments have been made against representation by outsiders on boards. In this regard, it has been suggested that outsiders do not have the time and expertise to perform effectively (Zahra and Pearce, 1989, p.315). In addition outsiders may find it difficult to "understand the complexities of the company and to monitor its operations and, hence, to be fully responsible or effective" (Chaganti *et al*, 1985, p.407). These two arguments would lead us to expect that having more insiders on boards is conducive to corporate survival as these directors can be expected to have more time, expertise and knowledge to bring to bear, which will help avoid corporate collapse.

On balance, the above arguments - for and against outsider representation on boards - are supportive of the above hypothesis:

H3: Failed companies will have a lower proportion of outside directors on their boards compared to surviving companies.

H4: Failed companies will have fewer outside directors on their boards compared to surviving companies.

H5: Failed companies will be less likely than surviving companies to have a majority of outside directors.

Once again, outsider representation is a proxy for intangible variables; such as the influence of outsiders on corporate strategy and responsiveness to the environment. As a proxy variable outsider representation is subject to the same concerns outlined above in relation to the board size and CEO duality proxy variables.

3.2.1.4 Interaction effects of governance variables

Two recent studies (Daily and Dalton, 1994a, 1994b) have investigated the relationship between the interaction of governance variables and corporate failure. In the first of these studies, Daily and Dalton (1994a) examined the interaction effect of CEO duality and both the number and proportion of outside directors, proposing that:

> ... it should be acknowledged that firms with CEO/board chair structures and few independent directors would constitute the limit of centralized top management governance. At the other extreme would be separate CEO/board chair positions and relatively more independent directors (Daily and Dalton, 1994a, p.646).

Whether or not it is the interaction between the number of outsiders or the proportion of outsiders, and CEO duality, or both, that may lead to corporate failure is unclear, hence the following hypotheses:

H6: Failed firms will be more likely than survivors to have CEO duality and a lower proportion of outside directors.

H7: Failed firms will be more likely than survivors to have CEO duality and have fewer outside directors.

3.2.1.5 Ownership

Following Berle and Means (1932), it is often argued that in the modern corporation ownership is so widely spread that managers have the scope to pursue their own interests largely unchecked by shareholders. As Glasberg and Schwartz (1983), comment, this "managerial theory" of the firm:

> ... is premised on the observation that most companies are no longer subject to the dictates of individual owners holding dominant blocks of stock (Glasberg and Schwartz, 1983, p.320)

However, there appears little basis for this statement in the New Zealand context. As we demonstrate in *Chapter 7* the vast majority of New Zealand listed companies are controlled by individuals or companies holding large blocks of stock combined with board and, often, management representation.

It has been proposed that one of the ways managers can pursue their own interests is through conglomerate building. The general proposition here is that as share ownership becomes more diffuse - and, as a result, managers discretion increases - the firms they manage will be observed to diversify in ways which are likely to be contrary to owners' primary concern for profitability. Through diversity comes a reduction in managers perceived "employment risk" (Amihud and Lev, 1981) and an increase in company size and hence managers compensation (Gomez-Mejia, Tosi and Hinkin, 1987). Fox and Hamilton (1994) found no evidence to support this corporate control-diversification relationship in their study of 96 New Zealand listed listed companies for the year 1985.

Furthermore, the evidence on corporate control and corporate financial performance does not lend support to the managerial theory of the firm. Hence Glasberg and Schwartz's comment that:

> Though there have been some discrepant results, the body of evidence disconfirms the managerial hypothesis. Owner- and manager-controlled companies exhibit little or no difference, in either profit margin or rate of return to stockholders (Glasberg and Schwartz, 1983, p.320).

Given the above, there appears to be no sound basis for supporting the managerial theory of the firm in the context of corporate failure. If there is no association between ownership and corporate financial performance, it appears most unlikely that there would be any such association between ownership and failure. Hence:

H8: Failed companies and surviving companies will not be distinguishable by their concentration of ownership.

Note this statement asserts an essentially linear relationship between the share of the largest owner and degree of influence or control that can be exerted over the company. It is accepted that this relationship my have been better represented by a binary (step function) relationship (control/no control). However, any step function representation would have involved some loss of information and the imposition of a critical level of ownership at which the step should take place. In other words, both formulations involve assertion and we have proceeded here with the continuous linear version on the grounds that its performance would be (a) less sensitive to the assertion underlying its use, and (b) provide the more severe test of the relationship in question.

3.2.2 Other factors that may lead to corporate failure

In addition to the governance variables examined above, there are a number of other factors which have been proposed to contribute to corporate failure. It is to these factors which we will now turn our attention:

3.2.2.1 Company size (the liability of smallness)

There is extensive evidence that there is a "liability of smallness" (Aldrich and Auster, 1986), ie. that smaller firms are more likely than larger firms to fail. For example, Peel, Peel and Pope (1986) found failed companies were significantly smaller (as measured by the logarithm of total assets) than their non-failed counterparts. Bates and Nucci (1989) found firm size, as measured by the logarithm of sales revenue, to be inversely related to discontinuance. In a review of the firm size-failure literature Singh and Lumsden comment that "with few exceptions, there seems to be strong empirical support for the liability of smallness" (1990, p.176).

One explanation for increased rates of failure among smaller firms is that, in contrast to larger firms, smaller companies tend to be less diversified and therefore more subject to industry fluctuations (Sheppard, 1994a). Also, in corporations which operate in a single industry, there may be significant advantages associated with size which reduce the likelihood of failure. For example, in the context of banking, Boyd and Runkle (1991) propose that larger bank size is associated with a larger customer base and in turn to less risk in the lending portfolio, leading to a lower chance of bankruptcy.

Aldrich and Auster (1986) propose several other reasons for the liability of smallness, the first of which relates to Hannan and Freeman's (1984) notion of structural inertia:

> According to Hannan and Freeman, since selection processes in modern societies are such that they favor organizations with greater structural inertia (ie. inert organizations have lower mortality rates) larger organizations must have lower mortality rates (Aldrich and Auster, 1986, p.171).
>
> Smaller organizations have several disadvantages, compared with large organizations. Tax laws, in particular the favorable tax treatment of capital gains, create incentives for small-firm owners to sell out to large firms, whose borrowed funds for acquisition purposes have tax-deductible interest. Governmental regulations have more impact on small organizations as they attempt to deal with city, country, state, and federal

> levels of government. Finally, in competing with large organizations for labor input, small organizations are at a major disadvantage, since they cannot offer the long-term stability and internal labor markets that large organizations are thought to have (Singh and Lumsden, 1990, p.176).

One of the most commonly used arguments for the liability of smallness concerns the association between firm size and firm age. With regards firm age there is seen to be a "liability of newness" (Stinchcombe, 1965). Javanovic (1982) proposes that firms learn about their efficiency through operating in their industry. As firms become more experienced in their industry the likelihood of failure is reduced, or as Javanovic states "efficient firms grow and survive: the inefficient decline and fail" (1982, p.650). Stinchcombe's (1965) first referred to the concept of liability of newness. This concept incorporates Javanovic's (1982) proposition in arguing that younger firms are more likely than older firms to fail. The reasons for this are:

> First, new organizations depend on new roles and tasks that have to be learned at some costs. Second, sometimes new roles have to be invented, and this may conflict with constraints on capital or creativity. Third, social interactions in a new organization resembles those between strangers, and a common normative basis or informal information structure may be lacking. Finally, stable links with to clients, supporters of customers are not yet established when an organization begins (Bruderl and Schussler, 1990, p.530).

The arguments outlined above along with previous research on the liability of smallness lead us to propose that:

H9: Smaller companies will be more likely to fail than larger companies.

3.2.2.2 Industry

Several studies have found that industry effects impact on company performance (Grant, Jammine and Thomas, 1988; Scherer, 1980; Vernon, 1972). As Vesper (1980) notes in an early review on success and failure factors of entrepreneurial start-ups:

> Probably the most important variable affecting the survival and success of a new venture ... is the choice of product or service to be offered (Vesper, 1980, p.29).

There is compelling evidence that failure rates differ significantly between industries. For example, Preisendorfer and Voss found that "survival times of manufacturing firms are longer than those of trading firms" (1990, p.117). Platt (1989) found failure

rates of American companies differed significantly among 16 industry groups during each of the 1950s, 1960s and 1970s.

One explanation for the relationship between industry and corporate failure concerns industry contagion (Lang and Stulz, 1992; Aharony and Swary, 1983):

> Contagion may manifest itself in the form of creditor and customer withdrawal within an industry as a result of one firm's bankruptcy. This withdrawal weakens other firms as a consequence. Alternatively, one firm's bankruptcy may signal to the market that the industry is weak. This is consistent with the view that survival is determined by environmental carrying capacity, defined as the ability of the environment to support a population of firms (Hannan and Freeman, 1977). A strong environment, however, may enable a resource-deficient firm to delay or even avoid bankruptcy ... (Daily, 1994, pp.274-5).

Given the evidence for an industry-failure relationship we propose that:

H10: The industry in which a company operates will influence its likelihood of failure.

3.2.2.3 Protection

In New Zealand, the second half of the 1980s were characterised by a wide-ranging process of economic liberalisation (Campbell-Hunt, Harper and Hamilton, 1993; Savage and Bollard, 1990). This process of economic liberalisation is of particular interest in that it was beyond that attempted by any comparable country (Hamilton and Shergill, 1993b, p.103) and took New Zealand from being one of the most regulated economies in the industrialised world to one of the least regulated (Passow, 1992).

Major reforms to impact on manufacturers included the removal of import licenses, and their replacement with tariffs which were destined to fall over time (refer Baird *et al*, 1990, pp.13-15). Non-manufacturers were hit by the removal of entry restrictions (Hamilton, 1992a).

In terms of the effects of the aforementioned economic policy on New Zealand companies, there are two previous studies of interest. In the first study, Hamilton and Shergill (1993a) looked at 44 manufacturing companies that were listed on the New Zealand Stock Exchange between 1975 and 1985. They found that industry concentration and effective protection rates were significantly related to return on

equity, and industry concentration was significantly related to growth in sales. Another study (Galt, 1986) surveyed 30 manufacturing firms and found that the most common responses to economic liberalisation were dropping product lines (mentioned by 11 firms) and reducing staff numbers (mentioned by 12 firms).

Given the obvious effects of industry protection on corporate performance, it is somewhat surprising that this factor has been neglected in previous studies of corporate failure. In the New Zealand context, we expect companies that had higher levels of protection prior to deregulation to be more likely to fail during a period of economic liberalisation. This is because economic liberalisation will inevitably have the most severe impact on the performance of these companies. In particular companies that are only profitable because they operate in a protected environment may not be able to adapt to their changing environment in order to become profitable and survive.

H11: Companies having higher levels of industry protection will be more likely to fail during a period of economic liberalisation than will companies with lower or no industry protection.

3.2.2.4 Strategy

Numerous studies have examined the relationship between corporate strategy and corporate financial performance (Datta, Rajagopalan and Rasheed, 1991; Ramanujam and Varadarajan, 1989). A recent review of these studies states that:

> ... the performance effects of firm diversification remain unclear despite a large body or prior research that has yielded mixed results due to differing performance measures, diversification measures, samples and time periods (Lloyd and Jahera, 1994, p.259).

In the New Zealand context there is evidence that some corporate strategies lead to higher financial performance. Hamilton and Shergill (1993) in their study of 79 companies listed on the New Zealand Stock Exchange between 1975 and 1985 found that companies with a related diversified strategy outperformed companies with any other strategy in terms of ROA, ROE and growth in sales.

With the exception of Sheppard (1994b), who found no relationship between the level of diversification and bankruptcy, previous studies of corporate failure have neglected to control for corporate diversification. Instead, these studies have controlled for industry effects by matching failed and surviving companies in the

same major industry. Sheppard (1994a) argues that this is inappropriate given that diversified firms activities are often so widely spread that no comparable match can be made on the basis of major industry. Hence the need to control for corporate diversification in failure studies. Sheppard (1994b) outlines the argument for a diversification-failure relationship thus:

> Through diversification an organization can reduce its reliance on any one domain of activity and thus reduce the chance that a market downturn in any one market will greatly impact the firm's chance for survival (Sheppard, 1994b, p.798).

From the foregoing discussion we expect that:

H12: Failed firms will be less diversified than survivors.

3.2.2.5 Structure

Previous research has supported the M-form hypothesis, namely that companies with a multidivisonal structure will perform better than companies with other structures (Hoskisson, 1987). The reason for the purported superiority of the M-form structure, as originally stated by Williamson, is that:

> ... the organisation and operation of the large enterprise along the lines of the M-form favours goal pursuits and least-cost behavior more nearly associated with the neo-classical profit maximising hypothesis (Williamson, 1975, p.150).

More recently Hamilton and Shergill (1989) in commenting on the influence of adoption of the M-form structure on corporate performance state that:

> ... the alleged superiority of this structure in terms of company profitability stems from its ability to avoid the problems of control loss and strategic myopia, problems which would otherwise lead to impaired profitability (Hamilton and Shergill, 1989, pp.89-90).

Williamson (1970) proposed that compared to companies with an M-form structure, large companies with a functional structure would be less internally efficient and have less direction as a result of less strategic control (Hoskisson, Harrison, and Dubofsky, 1991). Williamson (1970) also highlights the problem of replacing poorly performing top managers, which is said to be more difficult in companies with a functional structure. As we mentioned earlier, the replacement of poorly performing top managers is particularly important in turnaround situations (Addison and

Hamilton, 1988). Thence the inability to replace such managers due to structural constraints may well be an important factor associated with corporate decline.

Another structure which has come under criticism by Williamson (1985) is the H-form (holding company) structure. It has been proposed that this structure "does not provide adequate controls necessary for efficient capital allocation" (Hoskisson *et al*, 1991, p.272).

An interesting question arises with regards the association between the various structures we have examined and corporate failure. It appears clear that divisional (M-form) structures are much less likely to be associated with corporate failure than functional structures. Furthermore, it is apparent that the holding company structure is something of a transitory structure, falling between the functional and divisional structures. In the New Zealand context, Hamilton and Shergill (1989) found structure to be associated with financial performance (growth and profitability). Companies with divisional structures were the most profitable, followed by companies with holding company structures and functional structures. It therefore appears likely that:

H13: Companies with a functional structure will be more likely to fail than companies with either a holding company structure or a divisional structure.

3.2.2.6 Strategy-structure fit

Several studies have indicated that some combinations of strategy and structure are associated with higher performance than are others (Hamilton and Shergill, 1992; Donaldson, 1987; Donaldson, 1984). For example, Hamilton and Shergill (1992) found that New Zealand listed companies having a related diversified strategy and a divisional structure outperformed companies having any other combination of strategy and structure. Given the relationship between strategy-structure fit and corporate financial performance, we expect that:

H14: Failed companies will be more likely than survivors to have no fit between strategy and structure.

3.3 SAMPLE

According to Sheppard (1994b), one of the major problems with the organisational decline literature is that:

> ... most studies involve organizations which may be subject to substantial liability of newness or smallness ... The conclusions of these studies may thus be inappropriate for the managers of larger, on-going business concerns. Yet, the research in the area is desired [sic]. Strategic managers - those managers responsible for the well being of the entire organization - list the survival of their organization as their principal concern ... (Sheppard, 1994b, p.796).

Taking note of Sheppard's comments, we elected to use a group of established companies as the basis for our study, thereby hoping to gain a greater understanding of the factors contributing to organisational decline. The sample was selected from those 129 companies that were listed on the New Zealand Stock Exchange (NZSE) from 1980 to 1985.[6] Next, we classified those companies that then remained listed through to 1990 as *survivors* (31 companies).[7]

Our next task was to determine which of those companies that did not remain listed through to 1990 were failures. To do this we used a previous study of corporate distress in New Zealand (Addison and Hamilton, 1988) and determined the Z-values of all companies that did not survive (remain listed) to 1990. For each of these non-survivors, Z-values were based on financial information contained in the most recently available annual report prior to delisting. If the company had a Z-value that signified distress and did not survive until 1990 we classified it as failed.[8] In doing so we excluded from our sample companies that were delisted for reasons ostensibly not associated with poor financial performance. A total of sixteen companies were classed as *failures* (out of 35 companies).

---

6 Finance and mining companies were excluded from analysis because of their unusual balance sheet characteristics.

7 Four companies (Mount Cook, Radio Otago, Nuhaka and Taylor's) were excluded from anlaysis due to insufficient data.

8 Following Addison and Hamilton (1988) the Z-values were determined as follows:

$$Z = 0.56 + 12.52\,X1 - 3.82\,X2$$

Where:
X1 = EBIT/Total Assets
X2 = Current Liabilities/Total Assets

A Z-value of less than +0.15 signifies distress, whereas a Z-value of greater than +0.15 signifies that a company can be regarded as non-distressed.

3.4 THE VARIABLES

The dependent variable of interest was company failure, a binary variable assigned the value of 1 if the company was a *failure* and 0 if it was a *survivor.* The independent governance variables of interest are given in Table 3.2:

TABLE 3.2

Governance variables and their measurement

Governance variable	*Measured as:*
Board size	Total number of directors
Number of outsiders	Total number of outsider (currently non-executive) directors
Percentage of outsiders	Ratio of total number of outsiders to board size
Majority outsiders	A binary variable assigned the value 1 if more than half of the board members are outsiders; otherwise coded as 0
Executive Chair	A binary variable assigned the value 1 if the board chair is also an executive; otherwise coded as 0
Ownership	The percentage of all issued voting capital held by the major (ie. largest) shareholder or shareholding group
Interaction A	Interaction effect of executive chairperson and number of outsiders
Interaction B	Interaction effect of executive chairperson and proportion of outsiders

In addition to the governance variables several other independent variables were examined. These are discussed in turn below:

Corporate Strategy

The strategic variable of interest is the extent of diversification of New Zealand listed companies. Previous studies in New Zealand have used the product-count approach developed by Varadarajan and Ramanujam (1987) to measure diversification strategy (refer: Fox and Hamilton, 1994; Hamilton and Shergill, 1993a; Hamilton and Shergill, 1992b). Using this approach, both failed and surviving companies were classified as having one of the following four levels of diversity in 1985: *very low diversity; related diversified; unrelated diversified; and very high diversity.*

The primary reason for the adoption of this measure of diversification strategy derives from the lack of publicly available sales data, on a product line basis, for New Zealand companies. The measurement system was also adopted for this thesis in the interests of local continuity and replication.

Structure

Following previous studies of company structure in New Zealand (Hamilton and Shergill, 1989; Hamilton and Shergill, 1992b) we classified companies as having one of the following three types of structure: functional, holding company, divisional:

> In the functional structure, the organisation is broken down into a series of specialised hierarchical functions, each controlled by a specialist (functional) manager, all of whom report directly to the chief executive ... In the divisional structure, each division - whether based on product or geography - is likely to be headed by its own general manager, and have the resources and authority to operate as an autonomous unit ... The holding company structure is one comprised of independent companies (subsidiaries) which are majority owned and controlled by the separate holding company (Hamilton and Shergill, 1993, p.37).

Strategy-Structure fit

Following Hamilton and Shergill (1992) strategy-structure fit was recorded as a binary variable, with companies having a strategy structure fit assigned the value 1, and companies without such a fit assigned the value 0. The following table shows the possible combinations of strategy and structure and whether or not there is a fit:

TABLE 3.3

'Fit' and 'non-fit' combinations of strategy and structure

	Corporate strategy			
	Very low diversity	*Related diversified*	*Unrelated diversified*	*Very high diversity*
Functional	+	-	-	-
Holding Company	-	-	+	-
Divisional	-	+	+	+

Source: Hamilton and Shergill (1992)
Note: + = 'fit', - = 'non-fit'

Other independent variables of interest are given in the following table:

TABLE 3.4

Other independent variables

Variable	*Measurement*
Protection	The measure of protection for each company was based on its primary industry. Data for rates of protection were taken from Wong and Brooks (1986) and relate to 1985-86. It must be noted that the protection variable will be less appropriate for diversified firms, i.e., where a firm does not have a dominant primary industry.
Industry Concentration	Each company was assigned the concentration ratio (based on persons engaged) of its primary industry during 1984-85
Firm size	The natural logarithm of total tangible assets

3.5 RESULTS AND DISCUSSION

3.5.1 Introduction

Descriptive statistics and correlations appear in Table 3.5. We observe that several variables are indeed correlated with corporate failure. In particular companies having very low diversity, a majority of outside directors or a higher proportion of outsiders were correlated with failure. In addition companies having very high diversity were negatively correlated with failure.

The failing propensity that appears to be associated with outside directors is counter to our expectations. One possible explanation for our finding is the measure of outside directors used, i.e., non-executive directors. For example, our measure of outside directors will include former executives of a company which remain on a board following retirement from their positions as executives. Hence, our measure of outsiders may not have been sufficiently robust to provide an accurate picture of director independence from management, or of resource dependence; and our findings in this regard should be treated with some caution.

The apparent failure-avoidance characteristics of very high diversity companies should be put in context. The data relates to 1985-90, i.e., a period in which there was large-scale deregulation and a recession following the post-1987 sharemarket crash. It is plausible that companies involved in many industries were less

susceptible to failure for reasons that do not deny the limits of managerial competence in the multi-business enterprise.

Our findings that very high diversity companies may be more likely to avoid failure and that very low diversity companies may be more likely to fail - may indicate that having an involvement in many industries protects a company from failing. In this regard the comments of Sheppard (1994b) may be supported by our findings, i.e., diversification may reduce reliance on any one industry and - in the event of a market downturn in any one market - increase the chances of survival.

TABLE 3.5a

Correlation matrix - control variables

VLD											
RD	-0.3149[b]										
UD	-0.3149[b]	-0.1750									
VHD	-0.5408[c]	-0.3005[b]	-0.3005[b]								
Fnl	0.6431[c]	-0.1010	0.0207	-0.5918[c]							
Hlg	-0.2675[a]	-0.1251	-0.1251	0.4592[c]	-0.5094[c]						
Dvl	-0.4204[c]	0.2264	-0.3005	0.1824	-0.5640[c]	0.4592[c]					
Fit	0.3198[b]	-0.0392	-0.0392	-0.2653	0.2030	-0.6870[c]	0.4455[c]				
Size	-0.2709[a]	-0.1057	-0.7093	0.4138	-0.3292b	0.3822[c]	-0.0202	-0.2614[a]			
IC	0.0264	0.0133	0.1246	-0.1304	0.2066	-0.1416	-0.0816	-0.0244	0.1919		
Protn	0.0324	0.0138	-0.0391	-0.0138	0.1436	-0.1648	0.0070	0.0809	-0.2087	-0.0109	
Fail	0.3002[b]	0.0778	-0.0483	-0.3266[b]	0.2317	-0.0427	-0.2029	0.0118	-0.2185	0.0518	0.1521
	VLD	*RD*	*UD*	*VHD*	*Fnl*	*Hlg*	*Dvl*	*Fit*	*Size*	*IC*	*Protn*

Note: VLD=very low diversity; RD=related diversified; UD=unrelated diversified; Fnl-functional structure; Hlg=holding company structure; Dvl=divisional structure; Fit=strategy-structure fit; Size=firm size; IC=industry concentration; Protn=protection; Fail=failure.

[a]p<.1; [b]p<.05; [c]p<.001

TABLE 3.5b

Correlation matrix - governance variables

EC								
BdSize	-0.1457							
N_OUT	-0.3648[b]	0.6517[c]						
P_OUT	-0.3851[c]	-0.0530	0.6883[c]					
M_OUT	-0.3551[b]	-0.0545	0.4707[c]	0.6837[c]				
IntA	0.2314	0.6250[c]	0.7732[c]	0.4528[c]	0.2952[b]			
IntB	0.4088[b]	-0.1520	0.3261[b]	0.6115[c]	0.4675[c]	0.6515[c]		
Own	0.0710	-0.1448	0.1377	0.2740[a]	0.4704[c]	0.2268	0.3972[c]	
Fail	-0.2059	-0.2177	0.1218	0.3104[b]	0.3496[b]	0.0236	0.1429	0.3459[b]
	EC	*BdSize*	*N_OUT*	*P_OUT*	*M_OUT*	*IntA*	*IntB*	*Own*

Note: EC=executive chairperson; BdSize=board size; N_OUT=number of outsiders; P_OUT=percentage of outsiders; M_OUT=majority of outsiders; IntA=interaction of EC and number of outsiders; IntB=interaction of EC and proportion of outsiders; Own=ownership; Fail=failure.

[a]p<.1; [b]p<.05; [c]p<.001

TABLE 3.5c

Correlation matrix - other variables

EC	0.0125	-0.0304	-0.1895	0.1525	-0.0270	0.3528[b]	-0.3101[b]	-0.3420[b]	0.2170	0.1981
BdSize	0.3303[b]	0.1627	0.1538	0.0971	-0.2426[a]	0.1224	0.1379	-0.0343	0.6131[c]	-0.0660
N_OUT	0.0851	0.1171	0.0721	-0.0558	-0.0948	-0.0215	0.1204	0.0973	0.1789	-0.1096
P_OUT	0.3323[b]	0.0066	-0.0972	-0.2689[a]	0.2180	-0.2075	-0.0304	0.2800[a]	-0.3441[b]	-0.0836
M_OUT	0.1413	0.0517	0.0517	-0.2209	0.0703	-0.3035[b]	0.2172	0.2840[a]	-0.2073	0.0725
IntA	0.0067	0.1370	-0.0427	-0.0776	-0.0244	0.0876	-0.0583	-0.0329	0.2856[a]	0.1567
IntB	0.3655[b]	0.0243	-0.2168	-0.2260	0.2631[a]	-0.0229	0.2551[a]	0.0648	-0.1681	0.2300
Own	0.1420	0.0397	-0.1035	0.0960	-0.0847	0.0263	0.0639	0.0258	-0.1518	-0.1898
	VLD	*RD*	*UD*	*VHD*	*Fnl*	*Hlg*	*Dvl*	*Fit*	*Size*	*IC*

Note: VLD=very low diversity; RD=related diversified; UD=unrelated diversified; Fnl-functional structure; Hlg=holding company structure; Dvl=divisional structure; Fit=strategy-structure fit; Size=firm size; IC=industry concentration;
[a]p<.1; [b]p<.05; [c]p<.001

We next proceeded to conduct a logistic regession. This statistical technique is common in terms of the corporate failure literature, where the independent variable is dichotomous (failure versus survival) as opposed to continuous. The results of the logistic regression are presented in Table 3.6.

TABLE 3.6

Results of logistic regression analysis

	Coefficients	s.e.	log-likelihood	Model Chi-square	Improvement in chi-square	Sig.	Hit rate
Baseline	N/A	N/A	60.28	-	-	-	-
M_OUT	-4.62	16.33		8.55	8.55	.003	65.96%
DVL	0.73	0.39	47.65	12.63	4.08	.002	70.21%

Predictive accuracy

		Predicted		*Percent correct*
		0	*1*	
Actual	*0*	20	11	64.52
	1	3	13	81.25

Overall: 70.21%

Note: 0 = survivor; 1 = failure

From the logistic regression, only two independent variables were found to be significant predictors of failure. First, we found that companies having a majority of outside directors in 1985 were significantly more likely to fail before 1990 than were companies that did not have a majority of outside directors. We also found that companies which did not have a divisional structure in 1985 were more likely than companies that did have such a structure to fail before 1990. In the next two sections we will discuss these findings. We will then proceed to examine the null-findings of this research in light of previous research.

3.5.2 Majority of outside directors

With regards our majority of outsiders-failure finding, it is interesting to note that in 1985 all of the companies which subsequently failed had a majority of outsiders on

their boards. In contrast 22 out of 31 (71 per cent) of those companies that survived through to 1990 had a majority of outside directors in 1985. The issue of causality needs to be addressed with regards the observed majority of outsiders-failure relationship, ie. did having a majority of outside directors lead to corporate failure, or did the failing companies recruit more outside directors to their boards as their performance deteriorated. Insight into this issue is readily derived from the board composition data which was collected for *Chapter 4* of this thesis. If we compare the boards of failed and non-failed in the earlier year of 1980 we find that the companies that were subsequently to fail during 1985-90 also all had outsider controlled boards in 1980. In contrast 24 of the 31 (77.4 per cent) of companies which survived through to 1990 had outsider controlled boards in 1980.

All of this points to the companies that failed having a majority of outsiders on their boards for a considerable length of time prior to their eventual demise. That the majority of outsiders should be a significant predictor of failure is particularly interesting given that the proportion of outsiders was not found to be a predictor of failure. This indicates that the resource dependence arguments - which propose that outside directors will be particularly beneficial in linking firms with their environments thereby reducing the risk of failure - are not supported by our data. On the contrary, having a majority of outsiders appears to be detrimental to a firms chances of survival.

Thus it is desirable that the balance of power on boards should not rest with outsiders. There are several reasons why this may be the case. As was mentioned previously, outsiders as a whole may lack the insight into the activities of a firm and its environment that those involved in the company on a day-to-day basis possess. These attributes may be particularly pertinent in ensuring corporate survival.

Our finding that companies having a majority of outsiders were more likely to fail is not wholly consistent with the only previous study to examine this relationship. Chaganti *et al* (1985) found no significant differences between failed and non-failed companies in terms of the majority of outsiders on their boards. However, they did observe that "in each of the three years prior to failure, a larger number of non-failed firms had outsiders in the majority than did failed firms" (p.412). However, as we earlier mentioned our measure of outsiders is somewhat restrictive and may not adequately capture the notions of director independence or resource dependence. Hence, our findings with regards outside directors should be regarded as indicative only.

3.5.3 Not having a divisional structure

The other major finding of our logistical analysis was that firms not having a divisional structure, ie with either functional or holding company structures, are more likely to fail. This finding is particularly interesting given the lack of attention to structure as a variable in previous failure studies. As was mentioned earlier there are several reasons why companies with a holding company or functional structure may be more likely to fail, than companies with a divisional structure.

We now turn our attention to the variables which were not found to be significant predictors of corporate failure:

3.5.4 CEO duality

Our finding that there is no relationship between CEO duality and failure is consistent with two previous studies (Chaganti *et al*, 1985; Daily and Dalton, 1994a), but inconsistent with Daily and Dalton (1994b). In the first of these studies Chaganti *et al* (1985) found no difference in the incidence of CEO duality - in each of the 5 years preceding failure - for failed as compared to non-failed retailing companies. More recently, Daily and Dalton (1994a) found that CEO duality was not a significant predictor of bankruptcy at either 3 or 5 years prior to firms filing for bankruptcy. However, another recent study by Daily and Dalton (1994b) found that bankrupt firms were more likely than their matched non-bankrupt controls to have dual CEOs.

Therefore, one the whole, the empirical evidence to date supports the proposition that CEO duality is not detrimental to a firms chances of survival. This is rather surprising given the strong arguments that both the proponents and detractors of the CEO duality structure have proposed.

3.5.5 Board size

The two previous studies which have examined board size and bankruptcy have found a negative association, ie. bankrupt firms tend to have fewer directors than their non-bankrupt counterparts. The first of these studies (Chaganti *et al*, 1985) compared board size between 21 matched pairs of failed and non-failed retail firms. For each of the five years prior to failure, failed firms were found to have significantly fewer directors (at the 95 per cent level of confidence) than their non-failed counterparts. Failed companies had, in each of the five years prior to failure an

average board size of between 9 and 10 members. This is in contrast to non-failed companies which had an average board size of between 11 and 12 members.

More recently Gales and Kesner (1994) also support a board size-failure relationship. These authors found that at the time of filing for bankruptcy, firms had significantly smaller boards (an average of 7.04 members) than their non-failed matched pairs (which had on average 7.69 members). Gales and Kesner also found that firms eventually filing for bankruptcy experienced a significant decline in board size. However, Gales and Kesner made no comparison with the control group for this two year period. If is possible, therefore, that the control group also experienced a significant decline in board size, for reasons unassociated with poor performance.

Unlike the previous studies we have just mentioned, we found that board size was not a significant predictor of corporate failure. As with our finding concerning the majority of outside directors and failure, this finding indicates that the resource dependence view of boards is not supported by our sample.

3.5.6 Proportion and number of outsiders

Five previous studies have, either directly or indirectly, examined the relationship between the proportion of outside directors on boards and corporate failure. Chaganti *et al* (1985) found no difference in the percentage of outside directors on boards of failed companies as compared to non-failed matched pairs for each of the five years prior to failure. Sheppard (1994b) who also compared failed and non-failed matched pairs in each of the five years prior to failure (using 23 matched pairs in total), also found no significant difference in the percentage of outsiders on the boards of these companies. Gales and Kesner (1994) found no significant difference in the percentage of outside directors for 127 matched pairs of bankrupt and non-bankrupt companies, at the time of bankruptcy and two years prior to filing for bankruptcy. Daily and Dalton (1994a) found no significant difference in the proportion of independent directors in 50 matched pairs of failed and non-failed firms at either 3 or 5 years prior to filing for bankruptcy. However, another recent study by Daily and Dalton (1994b) found that failed companies have a higher proportion of affiliated directors than their non-failed counterparts. In summary, previous studies have, with the exception of Daily and Dalton (1994b) found no association between the proportion of outsiders on boards and corporate failure.

Three studies have examined the number of outside directors and corporate failure. In the first of these studies Hambrick and D'Aveni (1992) found, for each of the four

years immediately preceding bankruptcy, that failed companies had significantly fewer outside directors than their matched-pairs of surviving companies. Daily and Dalton (1994a) found for their matched pairs no significant difference in the number of independent directors at either three of five years preceding bankruptcy. Gales and Kesner (1994) found that at the time of bankruptcy and two years preceding bankruptcy, there was no significant difference in the number of outsiders on the boards of failed versus non-failed companies. They did, however, find that in the two years preceding bankruptcy, failing firms lost a significant number of outside directors.

As previously mentioned, four out of five previous studies found no relationship between the proportion of outsiders and failure. These studies are supported by our research. Also two out of three previous studies found no relationship between the number of outsiders and failure. These finding are also supported by our research.

3.5.7 Interaction effects

The interaction effects of CEO duality and either the number or proportion of outsiders were not found to be associated with subsequent corporate failure. This is in contrast to Daily and Dalton (1994a), where the interaction effect of CEO duality and the proportion of outside directors was found to be the only significant governance variable that predicted failure at both 3 and 5 years prior to firms filing for bankruptcy. Daily and Dalton (1994b) also found this interaction effect to be a significant predictor of bankruptcy (they did not test the interaction effect of the number of outsiders and CEO duality in their second study).

One possible reason for the lack of a finding in this area relates to the, aforementioned, lower incidence of CEO duality among New Zealand, as compared to U.S. companies, thereby ensuring that relatively few New Zealand companies will exhibit the interaction effect under investigation.

3.5.8 Ownership

That ownership does not appear to be a significant predictor of failure indicates that management-controlled firms may not be any more likely to be led by self-serving individuals who may engage in acts which jeopardise the very survival of their companies. This finding would appear to lend further support to proponents of stewardship theory, who argue that far from being self-serving individuals managers do act in ways that are in the best interests of shareholders.

3.5.9 Protection

The level of protection afforded companies in 1985 does not appear to be related to their chances of survival in the subsequent five year period. This indicates that companies did not have such difficulty in dealing with deregulation that their survival was jeopardised. This is counter to our expectations; we expected that deregulation would have had a detrimental effect on the survival of New Zealand firms. However, our finding in this regard must be treated with caution - it may simply be that our measure of protection was not sufficiently robust to capture the effects of deregulation on the firms under investigation. One possibility is that the protection variable did not adequately capture the effects of deregulation on diversified firms, as the value assigned this variable was based on the notional primary industry for each firm.

3.5.10 Strategy

Consistent with Sheppard (1994b), no relationship was observed between corporate strategy and failure. Thus, while there is considerable evidence that corporate strategy influences financial performance, the relationship between corporate strategy and failure appears non-existent. It appears that despite some corporate strategies being associated with poorer financial performance, this does not mean that companies having such strategies are over represented in terms of corporate failure. This is somewhat puzzling as we, naturally enough, expect failure to be influenced by financial performance.

3.5.11 Other variables

No relationship was observed between company size and failure. This is perhaps not surprising given that our samples of failed and surviving companies comprised companies which had been established for at least five years. As was earlier stated this finding was anticipated and can be seen to give our findings more relevance to managers of larger established companies.

Also, we found no relationship between industry concentration and failure. In part, this may be due to the level of measurement, namely at the two-digit SIC code level.

3.6 CONCLUSIONS

This study indicates that several factors, some of which have not been previously identified, distinguish companies that fail from those that survive. In particular having a majority of outside directors may be detrimental to a firm's chances of

survival; so too may be having either a functional of holding company structure. A caveat to our findings should be made with regard sample size. This study has a smaller sample size than some other analyses. This was inevitable given the restricted population size, ie., the small number of New Zealand listed companies. However, it is possible that our null findings might simply be an artifact of a limited sample size. Also, it is plausible that the failure of prior studies - and the present one - to explain corporate governance and failure may have something to do with the weakness of the data used; in particular, the use of the proxy corporate governance variables such as those adopted here may be inadequate.

Our findings lend further credence to stewardship theory, a framework which presumes that managers are seeking to maximise organisational performance (Donaldson, 1990; Donaldson and Davis, 1991). Managements representation on boards, far from being undesirable, appears to enhance a firms likelihood of survival, if executives, and not outside directors, dominate the board. The implication from this is the dominant influence of managers at board level may well be necessary because these individuals may well posses knowledge and expertise which outside directors do not, by virtue of their more detached involvement in the activities of the company. It appears that boards dominated by outsiders may, in effect, hamstring executives from the pursuit and implementation of those strategies which best ensure the very survival of their company.

The finding that not having a divisional structure appears to increase a firms likelihood of failure is interesting in light of the lack of previous research on corporate structure and failure. As with corporate governance in general, structure appears to be an area on which failure researchers should turn their attention.

Section Two

Chapter 4

BOARD STRUCTURE OF NEW ZEALAND LISTED COMPANIES

4.1 INTRODUCTION

Remarkably little is known about the boards of directors of New Zealand companies. The most recent research in this area was conducted by Turner (1985) who examined CEO duality among listed companies for 1984, and Chandler and Henshall (1982) who examined board size, incidence of executive chairmanship and the proportion of outsiders on the boards of listed companies. We seek to expand on these earlier studies and, in particular, identify what changes in board structure have since occurred. This analysis should give us a sense of the responsiveness of New Zealand companies to pressures to reform corporate governance and the current state of corporate governance with respect to board structure variables. In the terminology of Boyd, Carroll and Howard (1996), this analysis is *micro* and *descriptive* in nature. Micro, because we examines board variables, and descriptive because we are focusing on a single country, New Zealand.

4.2 CHANGES IN BOARD STRUCTURE IN NEW ZEALAND, 1962 TO 1993

4.2.1 Introduction

Past studies of board composition in New Zealand have typically focused on just board size (Laurent, 1971; Fogelberg and Laurent, 1974; Firth, 1987, Chandler and Henshall, 1982; Turner, 1985). Two previous studies have looked at CEO duality (Chandler and Henshall, 1982; Turner, 1985) with one of these studies (Chandler and Henshall, 1982) also looking at the proportion of outsiders on corporate boards.

We add to the existing data in two ways. First, we look at more board structure variables than previous local studies (refer Table 4.1 for a summary of the board structure variables of interest). Second, we update our knowledge of board structure variables, and changes in board structure, by including data for the years 1980, 1985, 1987, 1990 and 1993. Data for 1980 represents 53 per cent of all listed companies in

that year and 66 per cent of all listed companies are in the 1985 sample. The data for 1987, 1990 and 1993 represent all listed companies in each of those years.

Previous studies of board structure in countries with large numbers of listed companies have usually examined the largest listed companies (e.g., the *Fortune 500* or the *Times 1000*). Given the association between company size and some board composition variables, such studies will not provide an accurate portrayal of corporate governance in the countries of interest. Take, for example, board size which has found to be correlated with two measures of firm size, namely sales (Pfeffer, 1972) and total assets (Dalton and Kesner, 1987). Given these correlations we would expect any sample of companies drawn from a group of very large companies to have a larger mean board size than would a randomly chosen sample of all, for example, listed companies. Therefore, samples of very large companies will not accurately represent the average board size for all listed companies.

TABLE 4.1

Board structure variables

Variable	*Definition*	*Illustrative studies*
CEO duality	CEO duality occurs when an individual is both CEO and board chair	Turner (1985)
Executive board chair	Binary variable. Coded as "1" if the board chair is also CEO or another executive; "0" otherwise	Donaldson & Davis (1991)
Board size	Total number of directors (excluding alternative or deputy directors)	Pfeffer (1972) Barnhardt, Marr and Rosenstein (1994)
Number of Outsiders	The number of directors who are current executives of the company	Dalton & Kesner (1987)
Percentage of Outsiders	Number of outsiders/Board Size, multiplied by 100	Dalton & Kesner (1987)
Majority of Outsiders	Binary variable. Coded as "1" if greater than 50 per cent of directors are outsiders; "0" otherwise	Kesner, Victor & Lamont (1986)

Table 4.2 summarises the findings of past studies in New Zealand along with those findings for the years we have added. We will now proceed to identify and examine any changes which have occurred in the board structure of New Zealand listed companies since 1962.

TABLE 4.2

Summary of New Zealand board structure studies

Year	*1962*[a]	*1970*[a]	*1972*[b]	*1980*	*1981*[c]	*1984*[d]	*1984*[b]	*1985*	*1987*	*1990*	*1993*
Board size	7.21	6.96	6.66	7.24	6.95		7.12	7.45	6.14	5.70	6.07
% Dual		-	-	17.83	-	11.14	-	10.81	17.81	15.38	14.29
% EC		-	-	20.16	20.30		-	14.19	18.49	17.48	16.54
N_OUT		-	-	5.45	-		-	5.60	4.48	4.15	4.57
%_OUT		-	-	74.98	71.50		-	75.83	72.60	72.67	74.18
M_OUT		-	-	86.82	-		-	87.16	81.16	82.52	82.71
No. of companies	58	160	247	129	208	184	221	148	292	143	133
Rep'n*			100	53			100	66	100	100	100

Sources: [a]Laurent (1971) and Fogelberg and Laurent (1974); [b]Firth (1987); [c]Chandler and Henshall (1982); [d]Turner (1985).
Note: % Dual=percentage of companies in sample with CEO duality; % EC=percentage of companies with executive chairpersons; N_OUT=mean number of outsiders on boards; %_OUT=mean percentage of outsiders on boards; M_OUT=percentage of boards with a majority of outsiders.
*The percentage of listed companies represented.

4.2.2 Board size

There has been a significant change in board size between 1962 and 1993. There is little apparent change in board size over the most recent period from 1987 to 1993. But there does appear to have been a reduction in board size (from seven to six directors) between the period up to 1985 and the later period, 1987 though 1990. To test the significance of this change the available data on board size were subjected to an analysis of variance.

Full information was available for board data for all years except 1962 and 1981 (in these years only the mean board size was available). Conducting an analysis of variance on the available data we found an F ratio of 14.62 ($p<0.01$). An examination of the means and standard deviations of the data for the years analysed indicates that board size is, generally speaking, higher in the earlier years and lower in more recent years (refer Table 4.3). A Scheffe test reveals significant differences between several years of data. To confirm the direction and level of significance of these differences, t-tests were then conducted for the pairs of years identified as having significant differences by the Scheffe test (refer Table 4.4). As expected these t-tests indicate that, compared to earlier years, board size is significantly smaller in more recent years.

On the whole our analysis points to a reduction in the board size of New Zealand listed companies. In 1970 the mean board size was around 7 members, whereas in 1993 the mean board size was around 6 members. Board size was significantly smaller in each of the years 1987 and 1990 compared to 1970; and in 1990 compared to 1972. Board size was also significantly smaller in each of the years 1987, 1990 and 1993 compared to each of 1980, 1984 and 1985.

There are two possible explanations for the reduction in board size in more recent years. First, the lowest mean board size of 5.69 in 1990 perhaps reflects the levels of insolvency, bankruptcy, resignations and the loss of legitimacy of some directors as a consequence of the 1987 stock market "crash". Second, the rapid deregulation of the New Zealand economy and the stock market crash led companies to "give primary emphasis to their own survival" (Hamilton and Shergill, 1993, p.104). Companies in survival mode do not have the luxury of excess and unproductive directors, and are likely to alter their board structure accordingly.

TABLE 4.3

Sample characteristics for board size

Year	*N*	*Mean*	*Standard Deviation*
1970	160	6.96	1.99
1972	247	6.66	1.98
1980	129	7.24	1.91
1984	221	7.12	2.21
1985	148	7.45	2.11
1987	292	6.14	2.17
1990	143	5.69	2.27
1993	133	6.07	2.20

TABLE 4.4

t-tests for board size*

Year	*1987*	*1990*	*1993*
1970	4.063	5.153	
1972		4.268	
1980	5.222	6.109	4.670
1984	5.023	5.935	4.422
1985	6.070	6.821	5.409

* All significant at 1% level; blank cells denote no significant difference between years

4.2.3 Number of outside directors

The mean number of outside directors in five years is shown in Table 4.5. There has been a significant change in the number of outsiders on New Zealand boards. An ANOVA for the years of data available found a significant F ratio of 14.33 ($p<0.01$). A Scheffe test found that there were significant differences in the number of outside directors between each of the years 1980 and 1985 and each of the more recent years 1987, 1990 and 1993. T-tests show that the number of outside directors was significantly lower for each of these more recent years compared to the earlier years (refer Table 4.6).

TABLE 4.5

Number of outside directors

Year	*Mean*	*Standard Deviation*
1980	5.45	2.05
1985	5.60	1.94
1987	4.48	2.09
1990	4.15	2.12
1993	4.57	2.13

TABLE 4.6

t-tests for number of outsiders*

Year	*1987*	*1990*	*1993*
1980	4.444	5.135	3.408
1985	5.572	6.081	3.226

*All t-tests are significant at 1% level

4.2.4 Proportion of outside directors

An analysis of variance on the available data (ie, 1980, 1985, 1987, 1990, and 1993) revealed no significant change occurred in the percentage of outsiders on New Zealand boards (F=0.88; not significant). The mean proportion of outsiders remained within the range 0.73 to 0.76 over the 1980 to 1993 period (refer Table 4.7). That no significant change occurred can be explained by the changes we observed in the two variables which determine the proportion of outside directors, namely the number of outsiders and board size. These variables declined together, having no significant impact on the proportion of directors which were outsiders.

TABLE 4.7

Proportion of outside directors

Year	*Mean*	*Standard Deviation*
1980	0.75	0.19
1985	0.76	0.18
1987	0.73	0.22
1990	0.73	0.22
1993	0.74	0.19

4.2.5 Outsider Dominance

Between 1980 and 1993, outsider dominance of boards of directors was very high with over 80 per cent of New Zealand boards being dominated by outside directors. Table 4.8 shows the results for tests of difference in proportions between the various years for which data were available. From this analysis we observe that for no two years was there was there a significant difference in the proportion of companies being controlled by a majority of outside directors.

TABLE 4.8

Test of difference in proportions (p-values)

1980				
1985	-.084			
1987	1.421	1.589		
1990	.981	1.106	-.342	
1993	.926	1.046	-.381	-.041
Year	1980	1985	1987	1990

4.2.6 CEO Duality/Executive board chairs

Between 1980 and 1985 the proportion of companies having CEO duality declined significantly (from 17.8 to 10.8 per cent). However from each of the years 1984 and 1985 to 1987 there was a significant increase in the incidence of CEO duality.

In contrast to the changes observed in CEO duality, statistical analysis reveals no significant difference in the proportion of companies having executive board chairs between any of the years for which data was available.

TABLE 4.9

Duality: test of difference in proportions (p-values)*

1980					
1985	1.675[a]				
1984	1.608	0.173			
1987	0.005	-1.886[a]	-1.918[a]		
1990	0.542	-1.054	-1.158	0.632	
1993	0.782	-1.316	-0.881	0.903	0.256
Year	1980	1984	1985	1987	1990

*All p-values are significant at 10% level

TABLE 4.10

Executive board chair: test of difference in proportions (p-values)

1980					
1981	-0.029				
1985	1.320	1.359			
1987	0.401	0.440	-1.314		
1990	0.564	0.598	-0.770	0.257	
1993	0.756	0.791	-0.547	0.487	0.208
Year	1980	1981	1985	1987	1990

4.3 IMPLICATIONS FOR CORPORATE GOVERNANCE

The analysis undertaken indicates several key changes in board structure. First, board size has declined from around 7 members between 1962 and 1985 and 6 members more recently (1987 to 1993). As mentioned previously this reduction may have occurred due to the stock market crash and the pressures of economic deregulation.

Interestingly, the number of outside directors declined from around 5.5 per board in 1980 and 1985 to around 4.5 per board in the more recent period of 1987 through 1990. Thus, it would appear that the reduction that has taken place in board size is due to fewer outsiders being represented on boards. Following the previously outlined argument, this may indicate that such directors were more likely to constitute "dead wood" than were insiders, and are more likely than insiders to have suffered legitimacy problems following the sharemarket "crash".

With regards representation by non-executive directors, New Zealand boards were found to typically be dominated by outsiders. The Cadbury Report (1992) in the United Kingdom prescriped a "Code of Best Practice". Among the features of boards seen as desirable in this Code was that, ".. the representation of non-executive [i.e., outsider] directors on the board should be sufficient in number to carry weight in the board's deliberations ...".

In this respect New Zealand boards appear well equipped to perform their governance role effectively, with over 80 per cent of our boards having a majority of outside directors. Furthermore, by 1993, approximately three-quarters of the members on the average board were outside directors.

The Cadbury Report (1992) also recommends that, "... there should be a clear division of responsibilities at the top of any large company between the chairman and the chief executive officer ...". Only a small proportion (around 14 per cent) of listed companies had chief executives who were also board chairperson, indicating that such companies, *prima facie*, have an effective board leadership structure.

In conclusion, it appears that New Zealand boards are, *prima facie*, well structured in terms of what the Cadbury Report (1992) refers to as "best practice". In the next chapter we compare the board structure of New Zealand listed companies with those in the United States, United Kingdom, Japan and Australia. This investigation should give us a sense of the extent to which New Zealand boards are (dis)similar to those of our major trading partners.

Chapter 5

INTERNATIONAL COMPARISONS OF BOARD STRUCTURE

5.1 INTRODUCTION

In the previous chapter we have taken a largely descriptive approach, examining board structure within the New Zealand context. This approach is not dissimilar to much previous corporate governance research. As Boyd *et al* state, "much prior work has taken a descriptive rather than a comparative or explanatory focus" (1996, p.16). In fact, international comparative research on board structure is a neglected area, with Boyd *et al* (1996) commenting that:

> ... international research on corporate governance appears surprisingly scarce (p.3)
>
> ...much remains to be done to understand the function and effectiveness of international boards, and to provide comparisons across nations (p.16)

That international corporate governance research is so scarce it is somewhat surprising, especially when several studies indicate that there are in fact marked differences in board structure between some countries (Dalton, Kesner and Rechner, 1988; Dalton and Kesner, 1987). As *Chapters 2* and *6* of this thesis demonstrate, these differences in board structure may have important implications for the performance and ultimately the survival of corporations.

5.2 PREVIOUS INTERNATIONAL STUDIES

Only two previous papers have made any attempt to integrate the literature concerning board structure in different countries (Dalton, Kesner and Rechner, 1988; Dalton and Kesner, 1987). Each of these papers neglects much of the relevant research. For example, the research on determinants of board structure (e.g., Pearce and Zahra, 1992) and performance consequence of board structure (e.g., Rechner and Dalton, 1986; Mallette and Fowler, 1992) contain a wealth of data on board structure that, to date, has not being brought together.

Dalton and Kesner's (1987) is the only attempt that has been made to compare board structure variables between countries at a given time. This study compared board composition variables for 50 large companies in each of the United Kingdom., United States and Japan. Dalton and Kesner concluded that there were differences in CEO duality between the these three countries and that Japanese companies had a lower proportion of outside directors than either their U.S. or U.K. counterparts.

Given the lack of integration of previous research on board structure in different countries, and our interest in board structure in New Zealand, we decided to seek answers to the following research questions:

Q1: Does board structure in New Zealand differ from that in the United States, United Kingdom, Japan and Australia?

Q2: What factors account for any differences in board structure between New Zealand, the United States, United Kingdom, Japan and Australia?

5.3 DATA AND METHOD

One of the major difficulties in conducting international comparative research in the area of corporate governance is that:

> Interational governance is not a research stream per se, but rather a loosely integrated set of studies. Consequently, there is little consistency in the choice of theoretical perspectives, or countries and variables being studied. Because these papers are also written from a broad array of disciplines, they can be difficult to identify through an article search. This difficulty in identifying and locating international governance studies likely serves as a disencentive for other researchers to enter this area (Boyd *et al*, 1996, p.3)

Having decided to conduct an international comparative study, there were two approaches we could take. First, we could elect to collect relevant board structure data from other countries, which we could then compare to our New Zealand data. Alternatively, we could draw upon existing studies of board structure and make comparisons to New Zealand from these. The first option, collecting the data ourselves, was eliminated because of the inherent difficulties and time-consuming nature of collecting detailed board structure data in any country. We chose the second method, namely a literature review of existing data, because no comprehensive comparative literature review has previously been undertaken in this

area. We therefore hoped that some interesting insights would be gained from an investigation of this literature.

For comparative purposes we collected published board structure data for the United States, United Kingdom, Australia and Japan. The United Kingdom and the United States were selected for comparison because we believed more studies touching on board structure would be available for these countries than anywhere else. Australia was chosen because of its close ties with New Zealand and, in particular, its status as our largest trading partner. Japan was chosen because of companies from this country are believed to have vastly different governance structures than those apparent in western countries (Dalton and Kesner, 1987). It is also important to note that the four countries selected for comparison with New Zealand are our major trading partners.

The data on overseas board structure was obtained primarily from studies relating to board composition alone, board composition and corporate performance, and company interlocks. In an attempt to obtain as many studies as possible we searched abstracting databases (ABI-Inform, Econlit, Social Sciences Index). In addition the references in each paper we obtained were examined to identify any further papers that may be of use; literature review papers were especially useful in this regard.

We will now proceed to compare the board structure of New Zealand listed companies with those of Australia, Japan, the United States and United Kingdom. In making these comparisons it is important to be mindful of the relationships observed between firm size and board structure which may - by virtue of sampling biases (towards larger companies) - lead to otherwise erroneous comparisons being made. For example, if we find larger boards in American compared to New Zealand companies - then this may be a function of the data sources used (we would expect, say, *Fortune 500* companies to be very much larger than New Zealand Stock Exchange listed companies). Given this concern, we are only attempting to obtain a *prima facie* understanding of international board structures.

5.4 COUNTRY COMPARISONS

5.4.1 Comparisons with Australia

Table 5.1 shows board size for Australian Companies and comparisons with New Zealand companies. The Australian data is not strictly comparable to that for New

Zealand because of their bias towards larger Australian companies. Nevertheless, examination of the available data highlights some differences. New Zealand listed companies appear to have lower mean board sizes than large Australian companies. Around 1980 this difference was about one director. However, by around 1990, the Australian companies have approximately two more directors than do New Zealand companies. This situation appears to have arisen because the mean board size of New Zealand listed companies has declined between 1980 and 1990 (from 7.24 to 5.70), whereas the mean board size for larger Australain companies has remained relatively stable over a similar period (8.33 in 1979 and 8.37 in 1991).

TABLE 5.1

Board size of Australian versus New Zealand companies

	Australian companies			*New Zealand Companies*	
Year	*Sample*	*Basis for selection*	*Average board size*	*Year*	*Average board size*
1959[a]	Top 250	Assets	6.60		
1979[a]	Top 251	Assets	8.33	1980	7.24
1986[b]	Top 250	Assets	8.62	1987	6.14
1991[b]	Top 250	Revenue	8.37	1990	5.70

Sources: [a]Stening and Wan (1984); [b]Alexander and Murray (1992).

The only other board structure variable that has been given research attention for Australian companies is CEO duality. Kiel and Blannerhasett (1984) in their study of the top 50 Australian listed companies and found that 8 companies (16 per cent) had a board chair that was also CEO. Unfortunately, the authors do not give the year they their obtained data for, making a comparison with New Zealand data impossible.

5.4.2 Comparisons with the United Kingdom

As with Australia, most of the available board composition data for the United Kingdom relates to board size (refer Table 5.2). Hiner (1967) found that the mean board size of 345 randomly selected British listed companies was 5.9 directors in 1962. This compares to 7.21 directors in Laurent's (1971) study of 58 large New Zeland listed companies in the same year.

More recently, Dalton and Kesner (1987) in their sample of 50 large U.K. companies for the year 1986 found an average board size of 11.44 directors. This compares with a mean board size of only 7.45 directors for our 1985 sample of New Zealand listed

companies. However, this difference may be attributable to the size bias in Dalton and Kesner's (1987) sample.

TABLE 5.2

Board size and duality in United Kingdom companies

Study	*Year*	*No.*	*Mean board size*	*Duality*
Hiner (1967)	1955	510	8.31	33.92
Hiner (1967)	1960	704	8.07	36.80
Hiner (1967)	1962	345	5.90	
Dalton and Kesner (1987)	1986	50	11.44	30.0

Both Dalton and Kesner (1987) and Li (1994) examined the proportion of outsiders on the boards of U.K. companies. Dalton and Kesner (1987) found this statistic to be 0.64 for 50 large companies in 1986, wheras more recently Li (1994) found it to be 0.36 for 60 U.K. based multinationals in 1987. On the face of it these two statistics appear incompatable. In any event it appears that New Zealand companies have a higher proportion of outsiders on their boards at this time (0.76 in 1985 and 0.73 in 1987).

5.4.3 Comparisons with the United States

More studies have touched on various aspects on board structure in the United States than anywhere else. However, these studies have typically focussed on very large companies (Boyd *et al*, 1996).

Board size

Large U.S. companies appear to have a mean board size of around 12 directors (refer Table 5.3). Only one study (Schellenger, Wood and Tashakori, 1989) examines a random sample of U.S. listed companies. That study found a mean board size of 6.58 directors for 1986. This compares to 7.45 directors in 1985 and 6.14 directors in 1987 for New Zealand listed companies. It appears that, around 1986 anyhow, New Zealand and the U.S. listed companies had similar board sizes.

TABLE 5.3

Board size in United States companies

Study	*Sample*	*Year(s)*	*Mean board size*
Gordon (1945)	155 largest U.S. corporations	1935	13.5
Kaplan (1994)	146 companies with the highest sales on Fortune's list of the largest industrials in 1980	1980	14.88
Rosenstein and Wyatt (1990)	324 U.S. listed companies who appointed an outside director	1981-85	12.2
Kesner (1987)	250 randomly selected Fortune 500 companies	1983	12.48
Lee *et al* (1992)	58 MBOs, 1983 to 1989 U.S. listed companies	1983-89	11.45
Brickley *et al* (1994)	247 firms listed on the NYSE between 1984 and 1986 that	1984-86	11.96
Dalton and Kesner (1987)	50 large U.S. corporations	1986	12.96
Schellenger *et al* (1989)	526 randomly selected U.S. listed companies	1986	6.58

TABLE 5.4

Percentage of outside directors in United States companies

Study	*Sample*	*Year(s)*	*Percent Outsiders*
Kesner and Dalton (1985)	266 companies listed in Forbes from 1970 to 1980	1970	46
Kesner and Dalton (1985)	266 companies listed in Forbes from 1970 to 1980	1980	57
Rechner and Dalton (1986)	30 companies from the Top 100 Fortune 500	1980	68
Kesner *et al* (1986)	Average for 1980-84 of proportion of outsiders on 384 companies listed in the Fortune 500.	1980-84	70
Rosenstein and Wyatt (1990)	324 U.S. listed companies who appointed an outside director	1981-85	65.6%
Kesner (1987)	250 randomly selected Fortune 500 companies 1983	1983	63.70
Lee *et al* (1992)	58 MBOs, 1983 to 1989 U.S. listed companies	1983-89	59.39%
Brickley *et al* (1994)	247 firms listed on the NYSE between 1984 and 1986 that	1984-86	68.8%
Dalton and Kesner (1987)	50 large U.S. corporations	1986	69.7
Schellenger *et al* (1989)	526 randomly selected U.S. listed companies	1986	64.7
Li (1994)	192 U.S. firms taken from the Directory of Multinationals	1987	74
Baysinger, Kosnik & Turk (1991)	176 Fortune 500 companies	not given but appears to be early 1980s	40.5% insiders

TABLE 5.5

Number of outside directors in United States companies

Study	*Sample*	*Year(s)*	*Number of Outsiders*
Kaplan (1994)	146 companies with the highest sales on Fortune's list of the largest industrials in 1980	1980	9.57
Rosenstein and Wyatt (1990)	324 U.S. listed companies who appointed an outside director	1981-85	8.0
Lee *et al* (1992)	58 MBOs, 1983 to 1989 U.S. listed companies	1983-89	7.50
Dalton and Kesner (1987)	50 large U.S. Corporations	1986	9.02

Proportion of outside directors

There is no indication that the percentage of outside directors on boards is associated with company size. This was shown in Dalton and Kesner's (1987) study of 50 large companies in each of the U.K., U.S. and Japan. Given this results relating to differences in the percentage of outside directors between countries should be informative.

Results of studies on the proportion of outsiders on U.S. boards do not show any trend (refer Table 5.4). However, it appears that between 1980 and 1990 mean board size of large U.S. companies was between 60 and 70 per cent. This is somewhat lower than in New Zealand companies where the average percentage of outside directors over the same period was between 73 and 76 per cent (refer Table 4.2 of *Chapter 4*).

Number of outside directors

The only studies which have looked at the number of outside directors on the boards of American companies have examined large corporations (refer Table 5.5). Hence, no meaningful comparison can be made between New Zealand and United States companies with regards the number of outside directors. These studies found that large U.S. corporations had on average about 8 outside directors (refer Table 5.5).

CEO Duality

In contrast to New Zealand companies, American companies appear to have a significantly higher incidence of CEO duality (refer Table 5.6). Estimates of CEO

duality for U.S. companies vary widely, from 46 per cent in 1980 (Boyd, 1994) to 89 per cent for 1980 to 1984 (Kesner et al, 1986). The most recent study indicates that 76 per cent of American companies had a dual CEO structure in 1987. This compares to only 10.81 per cent for 1985 and 17.81 per cent for 1987 among New Zealand listed companies. It therefore appears in any event that New Zealand listed companies have an extremely low incidence of CEO duality compared to American companies.

TABLE 5.6

CEO duality in United States companies

Study	*Sample*	*Year(s)*	*% with CEO Duality*
Rechner and Dalton (1991)	141 companies listed in the *Fortune 500* between 1978 and 1983, with stable governance structures	1978-83	78.7
Boyd (1994)	192 U.S. corporations	1980	46
Dalton and Kesner (1987)	50 large U.S. corporations	1986	82.0
Donaldson and Davis (1991)	321 U.S. corporations	1987	76
Kesner, Victor & Lamont (1986)	384 Fortune 500 companies listed between 1980 and 1984	1980-84	89

5.4.4 Comparisons with Japan

Each of the studies examining board size in Japanese companies has used very large companies (Kaplan, 1994; Dalton and Kesner, 1987), so once again any comparisons with New Zealand are of dubious value. It is however interesting to note that the two studies just mentioned found board sizes of 22.5 and 21.0 members respectively, which are extremely large by any standards (refer Table 5.7). The large size of Japanese boards has not been explained by previous researchers.

TABLE 5.7

Board structure in Japan

Study	*Sample*	*Year*	*Mean Board size*	*# of outsiders*	*Percentage outsiders*	*CEO Duality*
Kaplan (1994)*	119 Japanese companies included in the 1980 list of Fortune 500 largest foreign industrials	1980	22.49	0.86		
Dalton and Kesner (1987)	50 large Japanese companies	1986	21.04	10.17	0.51	10.9%

* The same sample was used for Kaplan and Minton's (1994) paper.

The only study to examine CEO duality in Japanese companies is that of Dalton and Kesner (1987) who found that only 10.9 per cent of their sample of large Japanese companies had this board characteristic in 1986. This compares with a similar figure of 10.8 per cent for New Zealand companies in 1985, but a considerably higher figure for New Zealand companies of 17.8 per cent in 1987. The difference that is indicated for this later year may be due to the adoption of a board leadership structure by New Zealand boards leading up to the 1987 stock market "crash".

The findings of previous studies with regards the number of outsiders on Japanese boards are confusing (refer Table 5.7). Kaplan (1994) found that only 0.86 outsiders were represented on the average board during 1980. In contrast, Dalton and Kesner (1987) found that 10.2 outsiders were represented on the average Japanese board in 1986. There is no sound explanation for a massive increase in outsider representation over the 1980-85 period, leading us to conclude that the difference may be attributable to sampling bias. Given this possibility we elected not to compare Japanese and New Zealand boards on this variable, as we felt that any differences observed would in all likilehood be dubious.

Only one study has investigated the proportion of outsiders on Japanese boards is that of Dalton and Kesner (1987) who found this statistic to be 51 per cent for 1986. This compares to somewhere around 75 per cent at the same time for New Zealand listed companies. It therefore appears that New Zealand companies have a higher proportion of outsiders on their boards than Japanese companies. Insight into why this may be the case is provided by Dalton, Kesner and Rechner (1988):

> In Japan ... the role of the director appears to be less the steward of the stockholder than would be expected in either the United Kingdom or the United States. The "watchdog" model of outside directorship, then, may be largely unnececessary for the typical Japanese corporation ... (Dalton, Kesner and Rechner, 1988, p.101).

5.5 CONCLUSION AND DISCUSSION

Our findings are indicative of some differences in board structure between New Zealand and each of Japan, Australia, the U.K. and the U.S. Ideally, future research in this area should take care to study representative samples of companies in different countries, rather than just very large companies, thereby giving researchers the opportunity to make more generalisable observations about differences in board structure between countries.

Some explanations as to why governance structures in the U.K., U.S. and Japan may be different have been provided by previous research. The corporate structure of Japanese companies in particular is seen to differentiate such companies markedly from those of most western countries. In particular it has been noted that, "... the typical Japanese firm is comprised of very few owners whose financing comes from large financial instituions who work very closely with top management" (Dalton, Kesner and Rechner, 1988, pp.100-1). In a similar vein Prevezer and Ricketts (1994) note that, in comparison to U.K. companies (and presumably U.S. companies too):

> ... [shareholders] are largely insiders, having some kind of commercial contact with the company. Thus, although the structure of shareholding ... the nature of instituional shareholding is very different ... The institutions are not independent pension funds and insurance companies with their own interests and obligations ... They are instead institutions such as banks who may have provided loan finance; supplying companies who may have a long-running association; or other companies linked by cross-shareholdings.
>
> The second important feature of Japanese shareholding is that tradeability of rights is more constrained than in the U.K. It is estimated that nearly two-thirds of equity is held in the form of stable shareholding-*antei kabunushi*-which is distinct from interlocking shareholding-*kabushiki mochiai* (Prevezer and Ricketts, 1994, pp.245-6).

In addition to shareholding differences in Japanese, as compared to western companies, it has been observed that corporate boards in Japan are more "consensus orientated and less CEO-dominated" than their U.S. counterparts (Kaplan, 1994, p.520). This may also help account for the apparently low incidence of CEO duality among Japanese companies and the apparently large boards of Japanese boards (presumably consensus decision-making involves the participation of many relevant parties, which may be represented on the board)

The discussion just outlined indicates that Japanese companies may have different board structures than those of their western counterparts by virtue of differences in the nature of corporate ownership and decision-making. It is less clear why differences in board structure of western countries occur. It would be instructive for future international comparative studies to track board structure in different countries on an historical basis. Hence, any differences in board structure which may be present between countries today could be attributed to, say, how industry and corporate control has evolved in different countries. Take for example the following:

> ... the British tradition of corporate accountability has been traced to the philosophical writings of Bentham. Bentham applied utilitarian principles to management, with the idea that there is a concept of accountability for management actions which should result in beneficial consequences (Boyd *et al*, 1996, p.7).

However, despite the calls made for international comparative research on corporate governance, one must remain somewhat sceptical of its value. It is inevitable that the variables of interest to academics (such as those we have used) provide only vague indicators of whether or not a board is in fact effective. Academic research on boards of directors has largely been driven by convenience of data collection, with variables such as board size, outsider representation and CEO duality being readily observable and, typically, easily obtainable from secondary data sources, hence their use, and the theories revolving around these variables.

It would be more productive for researchers to focus on what makes some boards more effective that others. For example, to say that a larger board is likely to be more effective that a smaller board is somewhat simplistic. The quality and the diversity of the directors on the board is what one is more likely to be really talking about, and board size may only provide a rough indicator of these factors. Some research on the effectiveness of boards has been conducted. for example Bradshaw, Murray and Wolpin (1992), Cook and Brown (1990) and Kovner (1985). However, research in this area has typically focused on organisations in the health care sector. More general observations on effectiveness have been made by some (Leighton and Thain, 1993; Thain and Leighton, 1988; Weidenbaum, 1986), but empirical research appears more-or-less non-existent. This appears the most promising area for international governance research.

Chapter 6

BOARD COMPOSITION AND COMPANY PERFORMANCE

6.1 INTRODUCTION

Conventional wisdom has it that boards of directors influence company performance. Such influence may be direct, e.g., through boards monitoring management, or indirect, through the actions of a CEO selected by the board. Various structural characteristics of the board are often argued to influence - either positively or negatively - corporate performance. These structural characteristics include the leadership of the board, i.e., whether the CEO or another executive is board chair; board size i.e., the number of directors on the board; and representation by outside directors. Much of the research on board structural characteristics is open to alternative interpretation. Given the cross-sectional nature of much of this research causality could be argued to be in the other direction i.e., performance may well influence board composition. In fact, several longitudinal studies support this proposition (Boeker and Goodstein, 1991; Boyd, 1990; Hermalin and Weisbach, 1988).

This chapter and the chapter that follows, overcome some of the methodological problems of previous research and gives some new insights into the determinants of boards structural characteristics and their performance consequences.

6.2 BOARD LEADERSHIP, BOARD COMPOSITION, FIRM SIZE AND PERFORMANCE

Previous empirical literature has typically examined the influence of three characteristics of boards on corporate performance. These are CEO duality, the proportion, or percentage, of outside directors on the board, and board size. The literature relating to these threee areas was reviewed in *Chapter 3* of this thesis. In the present chapter we this literature with the assistance of meta-analysis:

6.2.1 CEO Duality

In the most recent study of CEO duality Boyd (1995) conducted a meta-analysis of previous studies and concluded that these showed that CEO duality has a weak negative relationship with firm performance. However, Boyd missed at least two studies in his meta-analysis (Daily and Dalton, 1992, 1993) and mistakenly included two other studies (Cannella and Lubatkin, 1993; Mallette and Fowler, 1992).[9] A revised meta-analysis of CEO duality-corporate financial performance is shown in Table 6.1, as are previous studies and two recent studies by Boyd (1994, 1995). We observe from these past studies that the combined mean effect size is -0.07. This figure, although modest, is statistically significant, and indicates that, there is a weak negative relationship between CEO duality and corporate financial performance.

One major concern in interpreting these studies is the method of analysis: some of these studies are cross-sectional. The authors of these studies are all to willing to see their findings as either supporting a CEO duality-performance relationship, the inference being that CEO duality either influences performance or it does no such thing. This may be the case, however an alternative interpretation could be placed upon some research findings in this area, namely that past performance causes CEO duality.

Where a positive CEO duality-performance relationship was found it could be argued that CEO duality has come about because the company has performed well under the stewardship of the CEO. Here the CEO may be rewarded for improved performance with the additional role of board chair. Alternatively, strong performance may permit

CEOs to wield more power in terms of board influence, thereby ensuring their election to the additional role of board chair.

Whilst CEO duality has been argued to either positively or negatively influence corporate financial performance, the reverse could also be argued. For example, poor financial performance may lead to CEO duality. In such cases the role of board chair is likely to be both undesirable and onerous, leading to the incumbent board chair to be more willing to vacate this position. Therefore any CEO who wishes to consolidate their position of power with an organisation will have an easier job either deposing the current board chair, and convincing other directors that such a change is necessary. This scenario has some support in the literature with Mallette and Fowler

[9] In determined prior to the year in which CEO duality was observed. Therefore these studies could only be used to test the proposition that corporate financial peformance leads to CEO duality.

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(1992) finding that ROE averaged over the previous three years was negatively correlated with CEO duality.

6.2.2 Outside directors

Outside directors, in the most narrowly defined sense are simply directors who do not currently serve in an executive capacity for the company on whose boards they sit. However, a number of broader definitions have been adopted (refer Table 6.2).

Most studies on the debate relating to insider versus outsider directors have used the proportion of outside directors as the independent variable. However, some studies have use the proportion of inside directors on the board or even the proportion of insiders to outsiders. Table 6.2 shows a meta-analytic review of previous studies.

One methodological concern in interpreting previous board composition-financial performance studies, as was mentioned earlier, and relates to the different definitions of an "outside" director. Thus while some studies take the approach that outsider directors are directors who are currently non-executives, others define outsiders as directors who are neither current or past executives. Bearing in mind these differences, the data in Table 6.2 could collectively be seen to provide a conservative view of the effect that outside directors, defined in their broadest sense, have on corporate financial performance. The meta-analysis of proportion of outside directors and financial performance shows an average effect size of .06, which is statistically significant. Thus, it appears that having a higher proportion of outsiders on corporate boards is associated with increased financial performance. This relationship, although not strong, is significant. That a positive, rather than a negative, relationship is observed when aggregating the findings of previous studies, is of particular interest. This is because, as we have seen, the arguments relating to inside versus outside directors, tend to favour representation by outside directors.

TABLE 6.1

CEO duality and financial performance

Study	*Sample*	*CEO duality definition*	*Performance measure(s)*	*Sample size*	*Effect size*
Berg and Smith (1978)	*Fortune 200* firms	CEO is also board chair	Growth in stock price ROI ROE	159 194 193	-0.49 -0.04 -0.18
Donaldson and Davis (1991)	337 *Standard & Poor's* companies	CEO or another executive is board chair	ROE Stock returns	329 321	0.13 0.06
Rechner and Dalton (1989)	*Fortune 500* companies	CEO is also board chair	Stock returns	141	0.05
Rechner and Dalton (1991)	141 Fortune 500 companies having, or not having, CEO duality between 1978 and 1983	As above	ROE ROI Profit margin	141	-0.2200 -0.2700 -0.2200
Daily and Dalton (1992)	100 firms listed in *Inc.* magazine's annual ranking of the fastest-growing small publicly held companies in the U.S.	As above	ROA ROE P/E ratio	100	0.0541 0.0100 0.0281
Daily and Dalton (1993)	186 *Standard & Poors* companies	As above	ROA ROE P/E ratio	186	-0.1500 -0.1100 -0.0400

Boyd (1994)	193 publicly held companies headquartered in the U.S. in 1980	As above	ROE	193	-0.0470
Boyd (1995)	As above	As above	ROI	193	-0.0300
Combined effect size					-0.0709

TABLE 6.2

Meta-analysis of proportion of outsider directors and financial performance

Study	*Sample*	*Definition of "outsider"*	*Performance measure(s)*	*Analysis*	*N*	*Effect size*
Baysinger and Butler (1985)	266 *Forbes* corporations	Public directors, professional directors, private investors and independent decision makers	ROE (current) ROE (future)	correlation	266	0.0900 0.1200
Cochran, Wood and Jones (1985)	406 *Fortune 500* firms for the year 1980	Insiders: current-employee directors	ROS ROE ROA Excess value	correlation	406	0.1100 0.1100 0.1800 0.2000
Cochran, Wood and Jones (1985)	As above	Insiders = current, past and affiliate employee-directors	ROS ROE ROA Excess value	correlation	406	0.1600 0.0700 0.1500 0.1400
Rechner and Dalton (1986)	30 randomly selected companies from the top 100 companies on the *Fortune 500*	Not defined	Month-end stock returns Month-end stock returns (controlling for firm size)	correlation	30	0.0200 -0.0040

Kesner (1987)	250 of the 1983 *Fortune 500* firms	Not defined (used insiders)	Profit margin ROE ROA EPS Stock price Return to investors (all for 1983)	correlation	250	-0.1700 -0.1100 -0.1600 -0.1100 0.1200 0.1000
Kesner (1987)	221 of the 1983 *Fortune 500* firms for which performance data was available for 1984-85	As above	Profit margin ROE ROA EPS Stock price Return to investors (for 1984-5)	correlation	221	-0.0800 0.0000 -0.1000 -0.0600 -0.1000 -0.1200
Hill and Snell (1988)	94 *Fortune 500* firms for the year 1980, in research intensive industries	Examined ratio of inside to outside directors, obtained from Dun and Bradsheet's *Reference Book of Corporate Management* for 1980	ROA ROA	correlation regression	94	-0.8800 0.2030
Zahra and Stanton (1988)	Random sample of 1980 *Fortune 500* companies	Not defined	ROE Profit margin Net sales to equity EPS DPS Log profits	correlation	100	-0.2000 -0.1500 -0.1200 -0.1600 -0.4000 -0.2000

Schellenger, Wood and Tashakori (1989)	526 firms, randomly selected from those firms listed on both the Compustat Industrial tape and the Centre for Research in Securities Prices	Not stated (verify)	ROE ROA ROI Risk adjusted ROI Dividend payout Average dividend	correlation	526	0.0599 0.1255 0.0827 0.1398 0.0831 0.1041
Lee, Rosenstein, Rangan and Davidson (1992)	58 going private transactions of NYSE or AMEX companies between 1983 and 1989	Proportion of independent and affiliated outside directors on the board Proportion of independent outside directors	Cumulative abnormal returns	regression regression	58	0.2608 0.2338
Lee, Rosenstein, Rangan and Davidson (1992)	74 unit management buyout transactions of NYSE or AMEX companies between 1983 and 1989.	As above	As above	As above	74	0.1556 0.0594
Byrd and Hickman (1992)	111 NSE or AMEX listed firms making 128 acquisition bids during 1980-87.	Directors with no affiliation with the firm other than their directorship	Two day risk adjusted returns Two day risk adjusted returns	regression regression	111 111	0.1363 0.1593
Daily and Dalton (1992)	100 firms listed in *Inc.* magazine's annual ranking of the fastest-growing small publicly held companies in the U.S.	Those not in the direct employ of the organisation	ROA ROE P/E ratio	canonical correlation	100	0.1643 0.0755 0.3161

Pearce and Zahra (1992)	119 *Fortune 500* companies	"Affiliated outsiders" - taken from *Corporate 1000*	ROA ROE EPS Net profit margin	correlation	119	0.2000 0.2100 0.1800 0.0900
Pearce and Zahra (1992)	As above	"Non-affiliated outsiders" - taken from *Corporate 1000*	ROA ROE EPS Net profit margin	correlation	119	0.1800 0.2200 0.3300 0.1600
Daily and Dalton (1993)	186 *Standard and Poors* companies	Outsiders were classed as those directors not currently in the direct employ of the organisation	ROA ROE P/E ratio	correlation	186	-0.0600 0.0200 0.0700
Boyd (1994)	193 U.S. firms that were publicly listed in 1980	Directors who are also serving executives (insiders)	ROE	correlation	193	0.0490
Goodstein, Gautam and Boeker (1994)	334 Californian hospitals	Board members who were not hospital staff or physicians	Operating margin	correlation	334	0.0400
Barnhart, Marr and Rosenstein (1994)	369 *Standard and Poors 500* firms, for 1990. Excludes regulated utilities and financial services corporations	Directors with no ties to the corporation other than their board seat	Market to book value of common equity	correlation	369	-0.1590
Barnhart, Marr and Rosenstein (1994)	As above	As above	Market to book value of common equity	regression	369	0.1029

Brickley, Coles and Terry (1994)	247 NYSE and ASE firms adopting poison pills over 1984-86	Decision makers in other firms that do not have extensive business dealings with the firm as well as public directors, professional directors and private investors.	Abnormal stock returns	regression	247	0.1697
Brickley, Coles and Terry (1994)	As above	Decision makers in other firms without extensive business ties to the sample firm	As above	As above	247	0.0756
Combined effect size						0.0574

TABLE 6.3

Summary of board size-financial performance studies

Study	*Sample*	*Performance measure(s)*	*Analysis*	*Sample size*	*Effect size*
Provan (1980)	46 non-profit human service agencies	Amount of intra-agency funding External funding Bequests	correlation	46	0.7700 0.5200 0.1100
Zahra and Stanton (1988)	Random sample of 1980 *Fortune 500* companies	ROE Profit margin Net sales to equity EPS DPS Log profits	correlation	100	-0.3600 0.3400 0.1600 0.3800 -0.5500 0.6800
Pearce and Zahra (1992)	119 *Fortune 500* companies	ROA ROE EPS Profit margin	correlation	119	0.2900 0.2400 0.3700 0.1900
Daily and Dalton (1993)	186 *Standard and Poors* companies	ROA ROE P/E ratio	correlation	186	-0.1000 0.1000 0.1200
Barnhardt, Marr and Rosenstein (1994)	359 *Standard and Poors 500* firms	Market to book value	correlation	369	0.0360
Goodstein, Gautam and Boeker (1994)	334 Californian hospitals	Operating margin as a percentage of net revenue	correlation	335	0.1000
Combined effect size					0.1326

6.2.3 Board size

Table 6.3 shows a meta-analytic review of the board size-performance literature. In total 16 effect sizes were determined. Twelve of these were positive with significant p-values, four were non-significant and two were negative and significant. A significant positive effect size of 0.1326 is observable from all studies combined, indicating that having a larger board is indeed related to higher financial performance.

6.3 CONCLUSIONS

This chapter has added to our understanding of the determinants and performance consequences of board structure in several ways. First, meta-analytic literature reviews indicate that board size and the proportion of outside directors on boards are positively associated with corporate financial performance, and that CEO duality is negatively associated with financial performance. These findings give some support to those arguing in favour of outsider representation on boards, but do not support those proposing that CEO duality is conducive to improved corporate performance.

Chapter 7

DETERMINANTS OF BOARD COMPOSITIONS

7.1 INTRODUCTION

The author of a recent study on the determinants of board composition commented that:

> ... despite [the] wide recognition of the significant role played by board composition in company performance, very few empirical studies have been undertaken to explain its determinants (Li, 1994, p.360).

We were able to identify thirteen studies which explored the determinants of board structure.

It is instructive to ask why there has been comparatively little research in this area. The major reason, as proposed by Pearce and Zahra (1992), is that board composition is often seen to be determined by the preferences of CEOs. Recognition of this was made by Hermalin and Weisbach (1988) who propose that CEO succession is a pivotal factor in determining board composition. These authors looked at board composition of 142 NYSE traded companies between 1971 and 1983, and found that inside directors tended to be appointed to boards prior to a change in CEO. These inside appointments were seen as part of a grooming process for would-be successors. Hermalin and Weisbach also found that following the appointment of a new CEO, iniders tended to resign from the board to be replaced by outsiders.

The view that CEOs dominate boards is changing, due largely to reforms in corporate governance. Take for example the following remark from a recent edition of *The Economist*:

> [f]ormal nominations and performance evaluation, once reserved for lower rungs of the corporate hierarchy, are now applied to company directors too (*The Economist*, 8 October 1994, p.84).

Given the waning influence of the CEO in determining board composition, explanations that do not focus exclusively on the CEO, are increasingly pertinent in explaining determinants of board structure.

7.2 PRIOR CORPORATE PERFORMANCE

Prior corporate performance provides one such possible explanation for board structure. In particular, poor past performance is seen to be positively associated with both board size and outside directors. Given that performance is often attributed to managers, in poor performing companies executive directors are seen to have been ineffective. Hermalin and Weisbach (1988) found that poor performing companies tend to remove inside directors and add outside directors to their boards. The replacement of insiders with outsiders is thought to occur as "poor performance indicates a need for a fresh perspective or greater monitoring ... " (Hermalin and Weisbach, 1988, p.591). Pearce and Zahra (1992) also support this view: in their study of 119 Fortune 500 companies they found effective past company performance was associated with lower representation by outsiders and larger boards. Kaplan and Minton (1994), in a longitudinal study of board appointments between 1980 and 1988, found that directors representing banks and non-financial corporations were more likely to be appointed to boards following poor sharemarket performance.

Poor corporate performance also appears to have implications for the ability of executives to gain directorships in other companies. Kaplan and Reishus (1990) found that managers of companies that significantly reduced their dividends between were significantly less likely to obtain other directorships than were managers of companies that had not reduced their dividends.

Given all of these research findings we propose that:

H6: Poor financial performance will be positively associated with the proportion of outsiders on a company's board.

H7: Poor financial performance will be negatively associated with board size.

7.3 FIRM SIZE

Firm size has also been examined as a determinant of board structure. Taking a resource-dependence view, Pfeffer (1972) proposed that this will occur because

larger organisations are invariably more diversified, therefore requiring them to interact with more and varied constituencies in their environment. Pfeffer also proposed that because of their size large organisations will have a greater impact on society and the economy, and "thus there is again a greater need to have more members who can relate and legitimate the organization to its external environment" (1972, p.223). Pfeffer's (1972) research found a positive correlation between one measure of organisation size (sales) and board size. This finding is supported by Birnbaum (1980) and Boyd (1990) Li (1994) has also found that larger companies tended to have a larger proportion of outside directors. From these studies we propose that:

H8: Firm size will be positively associated with board size.

H9: Firm size will be positively associated with the number of outside directors.

H10: Firm size will be positively associated with the proportion of outside directors on the board.

7.4 LEVERAGE

Leverage has also been proposed to influence board structure. In this regard, Pfeffer (1972) found leverage to be positively correlated with board size. More recently, Pearce and Zahra (1992) found leverage to be positively associated with both board size and outsider representation on boards.

The arguments for a leverage-board structure relationship also rely on resource-dependence theory. Pearce and Zahra (1992) comment that:

> As a firm attempts to acquire outside finances, its board will be enlarged to co-opt influential decision-makers in pertinent financial institutions (Pfeffer, 1972, 1973; Pfeffer and Salancik, 1978). By so doing, a firm attempts to ensure flow of needed capital at favourable terms. Alternatively, financial institutions may insist on securing representation on a board to ensure sound fiscal policies by the borrowing company. Thus as a firm's long-term debt to equity rises, board size will be expanded by adding outside directors (Pearce and Zahra, 1992, p.421).

Given this we propose that:

H11: There will be a positive association between leverage and board size.

H12: There will be a positive association between leverage and the number of outside directors on a board.

H13: There will be a positive association between leverage and the proportion of outside directors on a board.

7.5 OTHER FACTORS

In addition to the three factors examined above (performance, firm size and leverage), several other determinants of board structure have been proposed. It is to these factors which we now turn our attention. Due to lack of available data relating to these factors will not be examined in light of our New Zealand data. However, it is important to note that the three factors we will examine appear to be those which are most prominent in the existing literature, hence it is envisaged that they will give the greatest insight into what determines board structure in New Zealand companies.

Resource dependence theorists view board composition as being determined by an organisation's environment. This view is usually attributed to Pfeffer (1972) who views "the organization's use of the board of directors as a vehicle for dealing with problems of external interdependence and uncertainty, resulting from its exchange of resources with important external organizations" (p.219). Research with a resource dependence focus has typically viewed both board size and representation by outside directors as being attributable to the organisation's environment.

Board size is seen to indicate an organisation's ability to co-opt resources from its environment. Pfeffer and Salancik (1978) proposed that firms with a greater need to link with their environment should have larger boards. Pfeffer (1972) found board size to be positively related to both sales volume and leverage. Pfeffer (1973) found board size to be positively correlated with hospital budgets, proportion of funds received from private donations and the importance placed on community influence and fundraising as board selection criteria. Birnbaum (1984) in a longitudinal study of seven X-ray machine manufacturers found no causal relationship between competitive uncertainty and board size. This contrasts with the these findings of Boyd (1990) who, in a longitudinal study, found board size to be smaller under conditions of resource scarcity or competitive uncertainty. It appears that there is no clear empirical support for the proposition that environmental uncertainty influences board size.

This is also the case with regards outsider representation: Boeker and Goodstein (1991) found hospital boards changed representation by physicians, business executives and hospital executives in response to changing environmental contingencies. Birnbaum (1980) found increased competitive uncertainty led to fewer outsiders on boards. Pearce and Zahra (1992) found increased environmental uncertainty was positively associated with environmental uncertainty. In another study, Brinkley and James (1987) compared board composition in U.S. states where there was legislation restricting bank takeovers, with states where there was no such legislation. These authors found that both the number and proportion of outside directors was greater in states with no restrictive takeover legislation. Brinkley and James (1987) propose that this is the case because "... the board of directors will bear greater responsibility for checking managerial discretion in corporations where the influence of the market for takeovers is weak" (p.162).

Another determinant of board composition is thought to be strategy. Hermalin and Weisbach (1988) found empirical support for the proposition that exiting from a market would lead to the executive director(s) in charge of that market leaving the board. Pearce and Zahra (1992) found significant positive associations between companies having an external growth strategy or being more diversified and board size and representation by outsiders. This finding with regards board size and diversification supports the proposition made by Pfeffer (1992). However, Li (1994) found mixed support for a diversification-board size relationship. Pearce and Zahra (1992) also found that several other strategy variables were associated with board composition. There was a negative association between concentration strategy and outsider representation. Retrenchment strategy was associated with smaller boards and increased outsider representation.

Most recently, Li (1994) examined the role of ownership structure in determining the percentage of outside directors on boards. Li proposes that dimensions of ownership structure - ownership concentration, control by banks, and state control - influence outsider representation on boards. Where shareholdings in corporations are diffuse Li proposes a negative association with the percentage of outside directors. This is because owners in such cases are not seen to benefit individually by monitoring corporate performance. Shareholdings by banks in corporations were argued to be negatively associated with the percentage of outsiders on boards. As debtholders as well as equityholders banks will have daily access to information that is useful for monitoring purposes, thereby making board appointments less important in terms of

their monitoring benefits. In cases where the state has a shareholding in corporations it is argued that this will be positively associated with the percentage of outside directors because it is "especially important for the board of directors to be legitimate and accountable to the public" (Li, 1994, p.362). Li (1994) tested these propositions using a sample of 390 manufacturing companies, finding support for each. In contrast, Boeker and Goodstein (1991) found no support for the proposition that hospital ownership (a dichotomous variable: either for-profit or not-for-profit) was a determinant in changes in board representation by physicians, business executives or hospital executives.

7.6 SAMPLE AND METHOD

The sample comprised all companies listed on the New Zealand Stock Exchange (NZSE) between 1987 and 1993. Financial institutions, mining companies and companies which merged over this period were excluded from analysis, as were companies where there was incomplete financial information, leaving 56 companies. Performance measures used were ROA and ROE. Board composition data (refer Table 7.1) was collected for the years 1987, 1990 and 1993. In addition company interlocks were determined in each of these years for each company. Company interlocks are the number of boards of other public listed companies (including those not in our sample) that any company has board representation on.

TABLE 7.1

Board structure variables

Variable	*Definition*
CEO duality	Operationalised as a binary variable. Coded as "1" if the board chair is also CEO
Exec. Chair	Operationalised as a binary variable. Coded as "1" if the board chair is also CEO or holds some other executive position
Number of Outsiders	The number of directors who are not executives
Board size	The total number of directors
Proportion Outsiders	Number of outsiders/Board size
Majority of Outsiders	Operationalised as a binary variable. Coded as "1" if more than 50 per cent of the directors are outsiders

Our research design is a refinement upon that of Pearce and Zahra (1992), who collected board composition data for 1986 and performance data for each of the three preceding and three following years. In contrast, we collect board composition data for three years (1987, 1990, 1993). We then selected 1987 and 1990 as the years for which we would test the effects of board composition on subsequent performance. In line with this performance data (ROA and ROE) is collected for the three years following 1987 and 1990, i.e., 1988-90 and 1991-93. Board composition data for 1990 and 1993 was used to test the determinants of board composition. Consequently performance data was collected for each of the preceding three year periods 1987-89 and 1990-92. In addition we collected data on firm size (measured as the natural logarithm of total tangible assets) and leverage for these periods.

7.7 ANALYSIS AND DISCUSSION

7.7.1 Cross-sectional analysis

Given that much of the board structure studies have been cross-sectional in nature we decided that before looking at our longitudinal data we would examine the cross-sectional data for all companies listed on the NZSE in 1987, 1990 and 1993 (refer Tables 7.2 to 7.4).

From tables 7.2 and 7.3 we see that for the years 1987 and 1993 there was no correlation between either ROE or ROA and any of the board leadership or board composition variables. In contrast, in 1990 one board composition variable, board size, was positively correlated with ROE.

Assets and both board size and number of outside directors were positively and significantly associated in each of the three cross-sections, as were assets and interlocks. No consistent associations were found between assets and other variables. Assets were positively correlated with having an executive board chair in 1987 and 1990, but not in 1993. Assets and proportion of outsiders were negatively associated in both 1990 and 1993, but not in 1987. Assets and having a majority of outsiders was negatively associated in only one year, 1990.

TABLE 7.2

Correlation matrix, 1987

B_SIZE										
N_OUT	0.732[c]									
P_OUT	-0.061	0.600[c]								
M_OUT	0.086	0.532[c]	0.763[c]							
DUAL	-0.318[b]	-0.393[b]	-0.336[b]	0.321[b]						
EC	-0.257[a]	-0.475[c]	-0.477[c]	-0.399[b]	0.947[c]					
I'LOCKS	0.576[c]	0.260[a]	-0.216	-0.272	-0.187	-0.046				
LEV	0.018	-0.089	-0.132	-0.138	-0.055	-0.013	0.198			
SIZE	0.576[c]	0.303[b]	-0.185	-0.080	-0.162	0.275[b]	0.447[c]	0.075		
ROE	0.187	0.069	-0.194	-0.118	0.096	0.100	0.063	-0.062	0.198	
ROA	0.121	-0.003	-0.194	-0.195	0.074	0.066	-0.035	-0.064	0.053	0.891[c]
	B_SIZE	N_OUT	P_OUT	M_OUT	DUAL	EC	I'LOCKS	LEV	SIZE	ROE

Note: B_SIZE=board size; N_OUT=number of outsiders; P_OUT=percentage of outsiders; M_OUT=majority of outsiders; DUAL=CEO duality; EC=executive chairperson; I'LOCKS=company interlocks; LEV=leverage; SIZE=firm size; ROE=Return on Equity; ROA=Return on Assets.

TABLE 7.3

Correlation matrix, 1990

B_SIZE										
N_OUT	0.738									
P_OUT	-0.074	0.599[c]								
M_OUT	-0.190	0.386[b]	0.763[c]							
DUAL	0.018	-0.210	-0.376[b]	-0.238[a]						
EC	0.072	-0.216	-0.423[c]	-0.338[b]	0.933[c]					
I'LOCKS	0.502	0.356[b]	-0.017	-0.099	-0.154	-0.039				
LEV	0.118	0.118	0.024	-0.139	-0.025	0.031	0.295[b]			
SIZE	0.610[c]	0.252[a]	-0.295[b]	-0.314[b]	0.167	0.276[b]	0.394[b]	0.076		
ROE	0.205	0.079	-0.084	-0.193	0.035	0.045	0.028	-0.224[a]	0.079	
ROA	0.326[b]	0.158	-0.123	-0.145	-0.012	0.028	0.136	0.020	0.197	0.502[c]
	B_SIZE	N_OUT	P_OUT	M_OUT	DUAL	EC	I'LOCKS	LEV	SIZE	ROE

Note: B_SIZE=board size; N_OUT=number of outsiders; P_OUT=percentage of outsiders; M_OUT=majority of outsiders; DUAL=CEO duality; EC=executive chairperson; I'LOCKS=company interlocks; LEV=leverage; SIZE=firm size; ROE=Return on Equity; ROA=Return on Assets.

TABLE 7.4

Correlation matrix, 1993

B_SIZE										
N_OUT	0.818[c]									
P_OUT	0.050	0.582[c]								
M_OUT	-0.020	0.381[b]	0.709[c]							
DUAL	-0.203	-0.211	-0.115	-0.024						
EC	-0.203	-0.211	-0.115	-0.024	1.000[c]					
I'LOCKS	0.563[c]	0.408[b]	-0.033	-0.071	-0.175	-0.185				
LEV	0.215	0.239[a]	0.037	-0.045	-0.052	-0.052	0.170			
SIZE	0.651[c]	0.362[b]	-0.269[b]	-0.203	-0.026	-0.026	0.514[c]	0.253[a]		
ROE	0.196	0.167	-0.050	-0.026	0.028	0.028	0.133	-0.238[a]	0.082	
ROA	0.175	0.099	-0.135	-0.137	-0.013	-0.013	0.063	-0.217	0.038	0.844[c]
	B_SIZE	N_OUT	P_OUT	M_OUT	DUAL	EC	I'LOCKS	LEV	SIZE	ROE

Note: B_SIZE=board size; N_OUT=number of outsiders; P_OUT=percentage of outsiders; M_OUT=majority of outsiders; DUAL=CEO duality; EC=executive chairperson; I'LOCKS=company interlocks; LEV=leverage; SIZE=firm size; ROE=Return on Equity; ROA=Return on Assets.

Leverage was positively associated with was number of outside directors, and this association was only found for 1993. Also prior leverage was found to be associated with interlocks, but in 1990 only.

Having examined the cross-sectional data, we next proceeded to conduct several longitudinal analyses of our New Zealand data. This analysis was conducted to investigate the performance consequences, and determinants, of board structure. It is to these issues which we now turn our attention:

7.7.2 Longitudinal analysis

7.7.2.1 Board variables and financial performance

Our findings indicate that, on the whole, board structure does not play an important role in determining the future financial performance of NZSE companies.

Table 7.5 presents correlation matrices for board structure and subsequent financial performance. None of the board structure variables were associated with future ROE. Thus, our longitudinal findings indicate that the board size-ROE correlation that we observed for 1990 is not indicative of board size leading to improved financial performance.

Only one board structure variable, namely board size, was found to be associated with subsequent performance. However, this finding held only for the earlier time period (1987 to 1990) and for one performance variable (ROA). Companies with a larger board size in 1987 tended to have higher ROA over the subsequent three years, 1988-90, giving some support to hypothesis 5.

The inconsistent findings relating to board size and ROA, lead us to question whether board size does in fact influence this performance variable. There are several possible explanations here. First, the differences observed may be due to differences in environmental circumstances between the two periods. The first period, 1987-90, was characterised by great environmental uncertainty and was a recessionary period. In contrast, the 1990 to 1993 period was more benevolent, with economic growth evident. Second, any difference we have observed may be spurious, and our findings are simply not robust.

TABLE 7.5

Board structure and financial performance, correlation matrices

AVERAGES FOR 1988-90 FOR:							
ROE	0.191	0.091	-0.109	-0.129	0.009	0.020	0.017
ROA	0.282[b]	0.097	-0.184	-0.182	-0.123	-0.104	0.080
	B_SIZE	N_OUT	P_OUT	M_OUT	DUAL	EC	I'LOCKS
	GOVERNANCE VARIABLES, 1987						
AVERAGES FOR 1991-93 FOR:							
ROE	0.074	0.162	0.154	0.077	-0.076	-0.061	0.064
ROA	0.180	0.107	-0.044	-0.057	-0.109	-0.101	0.073
	B_SIZE	N_OUT	P_OUT	M_OUT	DUAL	EC	I'LOCKS
	GOVERNANCE VARIABLES, 1990						

Those who argue that larger boards are better performing in more turbulent environments typically propose that this is because such boards, by virtue of their size, have a greater ability to co-opt valuable resources from the external environment. If this is the case we would expect companies interlocks to associated with subsequent financial performance. Interestingly we find no such correlation between company interlocks in either 1987 or 1990 and subsequent financial performance as measured by ROA and ROE (refer Table 7.5). This leads us to conclude that a resource dependence view of our differing results is unlikely to be founded.

Given that environmental linkages do not appear to provide an explanation of the differing results, an alternative explanation relates to the size of the group *per se*. However, the findings run counter to what the literature would indicate - i.e., we find that larger boards performed better in the more turbulent environment. In contrast the literature indicated that small cohesive groups would be better suited to such environments.

An interesting possibility is indicated by the high positive correlation between board size and interlocks. Company interlocks can be viewed as giving an indication of the experience of directors. Those companies with fewer interlocks could be viewed as having less experienced directors, whereas those with more interlocks are likely to have directors with more experience. This experience may be particularly useful during a time of turbulence, such as that surrounding the 1987 sharemarket "crash", hence our finding.

7.7.2.2 Determinants of board composition

We next look at the determinants of board composition. As with the preceding board composition-financial performance analysis correlation matrices were derived as a starting-point for our analysis (refer Table 7.6). No consistent correlation was observed between prior financial performance (ROE or ROA) and board structure or company interlocks. We did find that firms having higher levels of ROA over 1990-92 were more likely to have larger boards in 1993, lending partial support to hypothesis 7. Furthermore ROE over 1990-92 was negatively associated with having CEO duality or an executive chairperson in 1993.

Firm size revealed itself to be consistently positively associated with several board structure variables, namely board size and the *number* of outside directors, supporting hypotheses 8 and 9. It therefore appears that as companies increase in terms of size

Table 7.6

Correlation matrix, determinants of board structure

MEANS FOR 1987-89							
LEV	0.128	0.043	-0.060	-0.203	-0.095	-0.023	0.296[b]
SIZE	0.604[c]	0.281[b]	-0.242[a]	-0.303[b]	0.161	0.283[b]	0.419[c]
ROE	0.175	0.053	-0.155	-0.102	0.074	0.080	0.060
ROA	0.174	0.012	-0.189	-0.145	0.073	0.074	-0.033
	B_SIZE	N_OUT	P_OUT	M_OUT	DUAL	EC	I'LOCKS
	BOARD STRUCTURE, 1990						
MEANS FOR 1990-92							
LEV	0.223[a]	0.177	-0.085	-0.187	-0.055	-0.055	0.261[a]
SIZE	0.640[c]	0.364[b]	-0.250[a]	-0.233[a]	0.049	0.049	0.482[c]
ROE	0.075	0.057	-0.017	-0.037	-0.328[b]	-0.328[b]	0.190
ROA	0.301[b]	0.194	-0.088	-0.029	-0.103	-0.103	0.048
	B_SIZE	N_OUT	P_OUT	M_OUT	DUAL	EC	I'LOCKS
	BOARD STRUCTURE, 1993						

they obtain more directors, and in particular more outside directors. This finding is consistent with the predictions we made from resource-dependence theory.

Firm size was also consistently negatively associated with boards having a majority of outside directors and the *proportion* of outside directors. Thus larger boards were more likely to be dominated by insiders and have a higher proportion of insiders on their boards. It therefore appears that although, as firms increase in size, they obtain more outside directors, these outside directors do not tend come to dominate the board. In fact the contrary appears to be the case, with insiders being more likely to dominate the boards of companies as they grow. Previous firm size was also consistently and positively correlated with the number of company interlocks.
Prior firm size was a significant positive predictor of having a board chair who was a serving executive for both 1990 and 1993. There was also a positive correlation between prior firm size and company interlocks in both 1990 and 1993. Leverage was also a significant positive predictor of interlocks for 1990 and 1993.

Past leverage and both board size and number of outsiders were positively correlated, but only during 1990 to 1993, lending some support to hypotheses 11 and 12. It may be the case that during this later period firms relied more upon external sources of finance to pursue growth opportunities as the New Zealand economy expanded.

There was no support for hypothesis 13, which proposed that leverage would be positively associated with the proportion of outsider directors on boards.

7.8 CONCLUSIONS

Our findings in the New Zealand context indicate that board structure variables are, on the whole, irrelevant in determining future financial performance. The exception to this observation is board size, which was found to be a significant predictor of ROE in a time of environmental turbulence (1987-90). These findings indicate that any calls for corporate governance reform in New Zealand which propose that various board structure characteristics will lead to improved financial performance, are unfounded.

Furthermore, firm size was found to be the only consistent predictor of board structure. However, in more recent years financial performance, as measured by ROA has become a determinant of both board size and board leadership. This relationship may only be apparent during the more recent time period, due to greater environmental stability, as opposed to the 1987-90 period, which could be seen as one of great environmental turbulence.

Section Three

Chapter 8

CORPORATE CONTROL AND FINANCIAL PERFORMANCE

8.1 INTRODUCTION

To date, corporate control has received more research attention than any other aspect of corporate governance. Previous studies of corporate control have typically examined either changes in corporate control over time or attempted to relate corporate control to corporate performance. It is these two areas which are the focus of parts two and three of this chapter. In particular, we examine corporate control changes over time and the relationship between corporate control and performance among companies listed on the New Zealand Stock Exchange.

8.2 CORPORATE CONTROL IN NEW ZEALAND

It is often argued that, in the modern corporation, the ownership of shares is so widely spread that management can pursue their own interests unchecked by shareholders. Symptoms of management's alleged pursuit of self-interest are believed to include conglomerate building and excessive salaries and perks (Dumaine, 1994; Amihud and Lev, 1981). This notion that managers may not act in the best interests of shareholders was first proposed by Adam Smith in the *Wealth of Nations*:

> The directors of [joint stock] companies, however, being the managers of other people's money than their own, it cannot be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company (Smith, 1776).[10]

In contrast to the, perhaps, rather cynical view of managerial behaviour set out above, a more charitable view of managerial behaviour is given by *stewardship theory*,

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[10] Cited in Hunt (1986), page 85.

which proposes that "... the executive manager, far from being an opportunistic shirker, essentially wants to do a good job, to be a good steward of the corporate assets" (Donaldson and Davis, 1991, p.51).

In this section we address the issue of management versus owner control of New Zealand public listed companies. Specifically, we focus on the extent to which shareholders in New Zealand's public companies have the ability to influence the actions of management.

Previous studies of corporate control in New Zealand have, with the exception of Firth (1992), classified companies according to the degree of control of those owning (voting) shares. Following Fogelberg (1980), companies were given one of four control classifications: *majority*, *minority*, *joint*, or *management*. Each of these four types of control is seen to represent different stages in the detachment of ownership from management control (refer Table 8.1). At one extreme, *majority control* represents a situation where there is a major shareholder (or group of shareholders) that holds an unassailable position in terms of control of a company. At the other extreme, *management control* represents a situation where shareholdings in a company are so widely dispersed as to ensure that no individual shareholder can exercise control in the direction of the company.

Table 8.2 shows the results of previous studies of corporate control in New Zealand, along with new data which were collected for this thesis. These new data were for the years 1990 and 1993. In addition, Fox and Hamilton's (1994) data for the year 1985 was updated with the inclusion of an additional 47 companies, to give a total sample of 143 companies for that year.[11]

Two previous studies (Fogelberg, 1980; Fox and Hamilton, 1994) have interpreted changes in ownership leading up to 1985. The first study, by Fogelberg (1980), examined the 43 largest surviving New Zealand Stock Exchange (NZSE) companies listed between 1962 and 1974. Of these companies, Fogelberg comments that:

> ... by the early 1960s there had been a substantial movement towards management control. During the next 12 years this movement continued, 13 firms moved either directly or more closely towards management control (Fogelberg, 1980, p.55).

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[11] Fox and Hamilton's intial sample was based on those companies listed on the NZSE in 1985 that were also listed in 1975. The additional 47 companies represent those that were listed in 1985 and either 1980 or 1990.

TABLE 8.1

Classification of control types*

Classification	*Deemed to exist when:*
Majority	Majority of capital (over 50%) held by one holder or a tightly-knit group
Minority	An individual or small cohesive group of shareholders hold sufficient votes to be able to dominate the company through their interest Exists where there is an important minority interest or family group accounting for between 15 to 50% of the votes, where this minority interest is represented on the board
Joint	Minority interest strengthened by a close association with management, or management control enhanced by a sizeable minority interest One of two situations may apply. Either: • owning a minority interest of 10-15% coupled with board representation, or • owning or controlling a minority interest of more than 5% with board representation and active management involvement
Management	Ownership is so widely distributed that no one individual or group has a minority interest which is large enough to allow them to exert dominance over the company's affairs

*Derived from Fogelberg (1980, pp.61-64)

TABLE 8.2

Control types of New Zealand listed companies, 1962 to 1993*

	1962[a]		*1974*[a]		*1981*[b]		*1985*		*1990*		*1993*	
Control classification	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Majority	7	16.3	3	7.0	45	22.1	54	37.8	73	54.5	58	50.0
Minority	14	32.6	13	30.2	78	38.2	69	48.3	52	38.8	48	41.4
Joint	5	11.6	6	14.0	19	9.3	10	7.0	4	3.0	7	6.0
Management	17	39.5	21	48.8	62	30.4	10	7.0	5	3.7	3	2.6
Totals	43		43		204		143		134		116	

Sources: [a]Fogelberg (1980); [b]Chandler and Henshall (1982)

* Our 1985, 1990 and 1993 samples comprise 66, 94 and 89 per cent respectively of all listed companies in each of these years.

If we conduct a Chi-square test on all the available data (as given in Table 8.2) we do find some significant differences in control classifications by year (refer Table 8.3). Interestingly, and in contrast to what we expect from Fogelberg's comments, no statistically significant change in the proportion of companies having various control classifications took place between 1962 and 1974.

TABLE 8.3

Chi-square statistics for differences in distribution of control categories between adjacent years

	1962-74	*1974-81*	*1981-85*	*1985-90*	*1990-93*
Majority	2.29	66.51	15.99	9.92	0.43
Minority	0.07	4.32	3.75	2.48	0.20
Joint	0.20	3.15	0.83	3.08	3.61
Management	0.94	14.21	25.76	2.04	0.41
Chi-square statistic (3 dof)	3.50	88.19*	46.33*	17.51*	4.65

*significant at .001 level

In contrast to what we expect from Fogelberg's comments, the first major changes in corporate control occurred between 1974 and 1981. Between these two years we found a significant difference in the proportion of majority and management controlled companies, with there being a higher proportion of majority controlled companies in 1981 and a lower proportion of management controlled companies in the same year.

The 1981-85 period saw further major changes in the distribution of companies among different control categories. Compared to 1981, in 1985 there was a greater proportion of listed companies in the majority and minority categories. Furthermore there were significantly fewer companies in the management controlled category in 1985 as compared to 1981.

The changes highlighted above are consistent with Fox and Hamilton's (1994) comment that:

> ... by 1981 there had been a big rise in the proportion of majority controlled companies and a roughly equivalent fall in the proportion of management controlled companies (as well as consistent if less marked shifts in the minority and joint categories). These changes continued on through to 1985 (Fox and Hamilton, 1994, p.74).

The 1985-90 period also saw a difference in the proportion of companies having majority control, with a greater proportion observable for 1990. There was no significant change in the distribution of firms by control classifications between 1990 and 1993.

In summary, we conclude that, over the period from 1962 to 1993, there has been a major shift to majority control among New Zealand public companies: by 1993 50 per cent of our public companies were majority controlled. This increase in majority controlled companies has taken place along with a decline in the proportion of our companies that are management controlled. Fogelberg's (1980) study found that 39.5 per cent of the 43 largest companies in the year 1962 were management controlled. In contrast, by 1993 only 2.6 per cent of all public listed companies were management controlled. A significant increase in the proportion of minority controlled companies is also evident over the 1962 to 1993 period, as is a significant decrease in the proportion of listed companies having joint control.

From the preceeding analysis, we can conclude that there is little evidence of a "managerial revolution" in terms of the control of New Zealand public listed companies. In fact, the reverse is the case, with companies coming more and more under the control of major shareholders. It therefore appears that there is likely to be little scope for managers to depart from actions which are in the best interests of shareholders. In the event that managers do pursue actions which are not in the interests of major shareholders then, given the high degree of control exhibited by these shareholders, it is likely that moves would be taken to align management's actions with those desired by shareholders.

8.3 OWNERSHIP AND PERFORMANCE OF NEW ZEALAND PUBLIC LISTED COMPANIES

8.3.1 Introduction

Berle and Means (1932) gave popular credence to the notion that the twentieth century has seen a separation of corporate ownership from corporate control, i.e., that there has been a "managerial revolution", as we mentioned earlier in this chapter. It has been argued that such a separation of ownership from control can lead managers to engage in actions which are not in the best interests of shareholders. In management-controlled firms, shareholders - by virtue of diffuse ownership - are seen to be powerless to constrain managers pursuit of self-interest. Ultimately it is

proposed that this pursuit of self-interest by managers will be reflected in poor corporate performance. Hence the rationale for ownership-performance studies, which seek to test the proposition that various types of corporate control will ultimately be associated with corporate performance.

Numerous studies have sought to determine whether the ownership structure of companies influences corporate financial performance (for reviews, refer Nyman and Silberston, 1978; Firth, 1992; Bothwell, 1980; Murali and Welch, 1989). Typically these studies define different types of control depending on the percentage of shares held by the major, i.e., largest, shareholder.

Reviews of the ownership-performance literature all conclude that no consistent findings have been found (e.g., Murali and Welch, 1989; Reeder, 1975; Short, 1994). For example, in reviewing 26 ownership-performance studies Short (1994) recently commented that:

> The empirical research on the effects of ownership structure on firm performance spans several decades, but has failed to reach any conclusions as to whether the type of ownership structure does significantly affect performance (Short, 1994, p.206).

One major criticism that can be levelled at previous ownership-performance studies is that invariably researchers have derived several control categories, based on rather arbitrary levels of ownership.

An aspect of corporate control and financial performance that has been neglected is the direction of any link between these two variables. It is typically proposed that corporate control will influence financial performance. However, the reverse may also be the case. For example, in poorly performing firms, a dominant shareholder may reduce their shareholding in order to invest in more profitable activities elsewhere.

8.3.2 Previous New Zealand research

Only one previous study has examined the relationship between ownership and performance of New Zealand public listed companies, namely Firth (1992). The sample for that study comprised 149 public companies for the year 1986. Firth's financial data was also for the year 1986, except for the variable *growth* which was defined as growth in shareholder's equity over the previous five years. For the

purposes of analysis, Firth classified his companies as either owner-managed or owner-controlled:

> Owner-controlled firms were those where there was a single shareholder (or closely associated group) who owned 20% or more of the firm's stock and who was judged to exercise some form of control (Firth, 1992, p.6).

Firms were classified as owner-managed if they were not owner-controlled. Firth found no association between control-type and either return on shareholders equity or growth. From this he proposed that:

> Managerial theories of the firm suggest that manager-controlled companies will be less profitable and perhaps show a faster rate of growth. The current study suggests manager-controlled firms' profitability is no different from other categories of companies (Firth, 1992, pp.16-17).

There are several concerns that we should have in interpreting Firth's findings. First, the results may, in part, be due to the control-classification system he adopted. Whether or not a shareholder holds more than 20 per cent of issued capital may not be a sufficiently robust basis to separate companies into owner versus management controlled classifications. Second, as Firth's data almost exclusively focuses on a single year, namely 1986, there may not be time for any association to appear; the treatment effect will have been applied for varying durations prior to 1986; some long, some short. If Firth averaged his variables over a longer time period, performance aberrations in individual years would be less apparent, leading to a clearer picture of the ownership-performance relationship being given.

Given some of the concerns expressed about previous ownership-performance literature, we decided that it would be instructive to conduct an analysis which sought to adress some of these concerns. It is to this study which we now turn our attention:

8.3.3 Sample and Method

Our sample comprised all companies listed on the New Zealand Stock Exchange (NZSE) between 1987 and 1993. Financial institutions and mining companies were excluded from analysis because of their unusual balance sheet characteristics. Companies which merged over the period of interest were also excluded, on the basis that there was not a single company to which we could attribute performance and ownership. These exclusions left us with a total of 56 companies for the purposes of analysis.

Given the rather arbitrary nature of many control-classification schemes we decided to operationalise ownership in a more compelling way. This was done by measuring ownership as the proportion of issued voting capital held by the major, i.e., largest, shareholder. A further consideration in selecting this method was the low incidence of companies in the majority and joint control classification categories of Fogelberg's (1980) classification scheme, thereby making any analysis which adopted that particular classification scheme of limited value.

Ownership was indeterminable for one company, the Helicopter Line, which was consequently excluded from analysis, leaving us with a final sample size of 55 companies. Data for ownership was collected for one year only (1990), the mid-year of our performance and ownership variable observations.

Performance measures used were return on assets (ROA) and return on equity (ROE). Performance data were collected for each year from 1987 to 1993. For the same period we collected data for two control variables. The first control variable, firm size was measured as the natural logarithm of total tangible assets. The second control variable, leverage was measured as: (current + term liabilities + minority interests)/total tangible assets, multiplied by 100.

Three year averages were calculated for each of the performance variables. The first, which relates to performance prior to 1990 averaged ROA and ROE for the years 1987 to 1989. The second, which relates to financial performance after 1990, averages performance variables for the years 1991 to 1993. The first performance averages were chosen to allow investigation of the possibility that performance influences ownership; whereas the second performance averages were chosen to investigate the proposition that ownership impacts on corporate performance.

8.3.4 Cross sectional analysis

We first conducted a cross-sectional analysis with all our data for the year 1990 (refer Table 8.4 for the correlation matrix). No correlation was found between ownership and either ROA or ROE, nor was there any correlation between ownership and company size or leverage.

TABLE 8.4

Correlation matrix of ownership and performance for 1990

Own				
ROE	-.2103			
ROA	-.0340	.5023[c]		
Size	-.1030	.1976	.0811	
Leverage	.0771	.0196	-.2255[a]	.0771
	Own	*ROE*	*ROA*	*Size*

Note: [a]p<.1; [b]p<.05; [c]p<.001

Given that financial data for individual years may not provide an adequate basis for testing our hypotheses we derived two more correlation matrices, one relating to future financial performance, the other to prior financial performance. We will now discuss the results of these analyses:

8.3.5 Ownership and future performance

Our correlation matrix for 1990 ownership and performance variables for the three years following 1990 is shown in Table 8.5. We found no correlation between the 1990 ownership variable and subsequent financial performance, either measured as ROA or ROE. In addition 1990 ownership was not associated with future levels of leverage or firm size.

TABLE 8.5

Correlation matrix of 1990 Ownership and future performance

Own				
ROE (future)	-.1052			
ROA (future)	-.1824	.7617[c]		
Size (future)	-.1394	.0572	.0617	
Leverage (future)	.0973	-.1336	-.0584.	.3202[b]
	Own	*ROE (future)*	*ROA (future)*	*Size (future)*

Note: [a]p<.1; [b]p<.05; [c]p<.001

8.3.6 Prior performance and ownership

We next looked at 1990 ownership and past financial performance (refer Table 8.6). From this table we see that one performance variable, past ROA, is negatively and significantly associated with the 1990 ownership variable. The other performance variable, ROE was not significant. It therefore appears that past ROA may influence

ownership. The nature of this possible relationship is most interesting, with lower levels of past ROA being associated with higher levels of current shareholdings.

TABLE 8.6

Correlation matrix for 1990 ownership and past performance

Own				
ROE (past)	-.2069			
ROA (past)	-.2327[a]	.8373[c]		
Size (past)	-.1388	.2173	.0620	
Leverage (past)	.0459	-.2004	-.1479	.2429
	Own	*ROE (past)*	*ROA (past)*	*Size (past)*

Note: [a]p<.1; [b]p<.05; [c]p<.001

We elected to conduct a further analysis to explore what appears to be a relationship between previous ROA and corporate ownership. For this analysis we used the ROA average of companies for 1987 to 1989 and examined the net change in ownership and the percentage change in ownership by the major shareholder of each company. Given the unavailability of some ownership data for the year 1993 for some companies, our sample for this analysis was reduced to 50 companies.

We found no correlation between average ROA for 1987-90 and either the net change in ownership between 1990 and 1990, or the percentage change in ownership over this period (r=0.09 and 0.08 respectively). Further analysis was conducted with the companies in our sample being divided into three categories (high, medium and low) based on ROA over 1987-89. We note that there is no difference in the incidence of change in the identity of major shareholder by ROA category (refer Table 8.7; Chi-square statistic=4.26; not significant).

TABLE 8.7

Chi-square analysis

ROA category	*No. of companies*	*Observed no. of cases of change in the identity of the major shareholder during 1990-93*	*Expected no. of cases*
High	16	2	4.48
Medium	17	4	4.76
Low	16	8	4.48

TABLE 8.8

t-tests for net change in ownership, comparing ROA categories

ROA category	*Medium*	*High*
Low	-0.044	0.050
Medium		0.089

TABLE 8.9

t-tests for percentage change in ownership, comparing ROA categories

ROA category	*Medium*	*High*
Low	1.313[a]	0.152
Medium		0.891

[a]Significant at 10% level

Furthermore, t-tests reveal no difference in net ownership change between 1990 and 1993 between various ROA categories (refer Table 8.8). Next, we examined differences between ROA categories and the percentage change in ownership over 1990 to 1993. This analysis revealed only one significant difference between performance categories. Companies in the low ROA category had significantly higher percentage changes in their ownership during 1990-93 than did companies in the medium ROA category, but not compared to companies in the high ROA

category (refer Table 8.9). This lends some support to the notion that poor ROA leads to increased concentration of ownership by the major shareholder; perhaps during times of poor performance major shareholders place a higher future value on shares than do other shareholders, and therefore increase their ownership stake.

8.4 CONCLUSION

This chapter has shown that major changes have taken place in the control of New Zealand public companies since 1962. In particular New Zealand companies have become more majority controlled and less management controlled.

We also showed that ownership of public companies does not appear to influence financial performance. In addition, it appears that companies which perform poorly in terms of ROA are likely to have a larger relative changes in their ownership than do companies which perform only moderately well in terms of ROA.

In the next two chapters, we will further investigate corporate control in New Zealand. In particular we will focus our attention on ownership of equities in New Zealand public companies by either foreign investors and institutional investors.

Chapter 9

POTENTIAL CORPORATE AND DIRECTOR INTERLOCKS

9.1 INTRODUCTION

The Western market-driven society provides the opportunity for the existence of many commercial networks, one of which is the network of company directors (Glasberg and Schwartz, 1983). The study of networks of power between directors or boards of directors is described as the study of multiple directorships, or of directorship interlocks.[12] An interlocking directorship exists when a person serves on the board of more than one company. Usually the unit of analysis of study is the corporation, thus multiple directorships are described per company. The inter-corporate relationship is personal between directors (Scott, 1991) and it is this relationship and its potential for utilisation and exploitation that drives research on interlocking directorates.

Implications of the existence of interlocks in New Zealand are not hard to find. The legal ramifications are wide-ranging, including antitrust legislation (Carroll, 1990; Carroll, Stening and Stening,1990); the common law fiduciary principle that directors must not allow a conflict of duties (Christie, 1992); and, to a lesser extent, the codification of these duties under the *Companies Act* 1993 (McManus, 1994). Recent concern about the powers of directors and the power of the Business Roundtable is shown in the popular press (McEwin, 1992; McLouglin, 1992). In the United States such concerns prompted the Securities and Exchange Commission (SEC), in 1992, to require disclosure of interlocks where matters of executive compensation are concerned (Schwartz, 1993).

Multiple directorships are not of concern *per se* as their mere existence cannot be taken to prove an active power relation (Davis and Powell, 1992; Pettigrew, 1992; Scott, 1991; Stinchcombe, 1990). Interlocks are indicators of *potential* power

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[12] Some authors prefer to descrive directors on multiple boards as holding multiple board memberships rather than an interlocking directorate because of what they see as the negative connotation attached to this term (Pettigrew, 1992).

relationships between companies at the highest level: it cannot be inferred that directors exploit networks of board memberships merely because such potential exists (Pettigrew, 1992). An active interlocking directorate can only be said to occur where "the link is of actual benefit to the firms involved" (Fogelberg and Laurent, 1974, p.17). Hence the need to maintain a careful distinction between potential and active interlocks.

This chapter is primarily concerned with changes over time in the number of potential interlocks. The next section presents a brief review of the literature, with particular emphasis on the Australasian research. This is followed in section three by a discussion of the primary data. The fourth section of the chapter presents our results as they relate to the distribution of directorships; company and director interlocks; the influence of company size; and differences among industry sectors. Comparisons are also drawn between the New Zealand findings and those for Australia. The results are discussed more generally in the concluding section of the chapter.

9.2 LITERATURE REVIEW

Research on interlocking directorates is part of the broader study of managerial elites and corporate governance (Pettigrew, 1992). Concern over interlocking directorships was expressed in the United States as early as 1913 by Brandeis, although the beginnings of the study of corporate governance, in general, is usually attributed to the later work of Berle and Means (1932). Academic study of directorship interlocks can be traced to the work of Florence (1961) in the United Kingdom and Dooley (1969) in the United States. Research on interlocking directorates in North America, Europe and Asia has burgeoned since this time and is reviewed in Mizruchi and Schwartz (1987), Scott (1991), Davis and Powell (1992) and Pettigrew (1992). The remainder of this section concentrates on Australian and New Zealand studies.

Rolfe (1967) studied potential interlocks between the top 50 Australian corporations in 1963. Hall (1983) examined the existence of potential interlocks between firms listed on the Australian Stock Exchange during the 1971-74 period. Stening and Wai (1984) studied potential directorship interlocks among the top 250 Australian firms from 1959-1979, reporting a trend of increasing board memberships and of potential interlocks. Carroll, Stening and Stening (1990) compared these data to potential interlocks among the top 250 Australian companies in 1986 and confirmed an apparent further increase in potential interlocks. However, these findings were later

qualified by Alexander and Murray (1992), who found an error in the tallying of data in the Stening and Wai (1984) paper. The revised study shows no significant change in interlocks from 1959 to 1986 and a fall in interlocks to 1991.

Research on company boards and interlocking directorates in New Zealand commenced with Laurent (1971).[13] Further research was undertaken by Fogelberg and Laurent (1973, 1974), Chandler and Henshall (1982) and, most recently, by Firth (1987). Firth's data extend through to 1984. Since then there have been very substantial changes in New Zealand's regulatory climate (Campbell-Hunt, Harper and Hamilton, 1993) and in corporate control (refer *Chapters 8* and *10* of this thesis). It is therefore important and timely to revisit these matters.

9.3 RESEARCH METHOD AND DATA COLLECTION

Data were collected for all companies listed on the New Zealand Stock Exchange (NZSE) in the years 1987, 1990 and 1993. Listed companies were chosen because information about these companies was readily available from annual reports and other published sources such as *The New Zealand Business Who's Who* and *The New Zealand Company Register.*

Companies numbered 292 for 1987; 143 for 1990; and 133 for 1993. A full list of directors was compiled for each company in each year. From this primary data set, we were able to compute: directorships per individual director; *direct* potential interlocks per company (company interlocks), and potential interlocks for all directors of each company (directorship interlocks). Note that the number of directorship interlocks per company will always be greater than or equal to the number of company interlocks per company. *Indirect* interlocks occur when the companies are joined through common director membership of the board of a third company. This study is only concerned with direct potential interlocks because, as noted by Zajac (1992, p.13), aggregation of direct and indirect links complicates the assessment of significance of the wider data set. For companies listed in 1993 the book value of total tangible assets was also noted as a measure of company size. Companies were also grouped by industry using the same New Zealand Stock Exchange industry classification system as in Firth (1987).

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[13] The composition of boards of directors were examined indirectly in New Zealand additionally by Fogelberg (1963, 1980) and Chandler (1982).

TABLE 9.1

Summary of data from New Zealand studies

	1970[a]*	*1972*[b]	*1981*[c]	*1984*[b]	*1987*	*1990*	*1993*
Number of directors	876	1291	1151	1143	1326	664	666
Mean Number of directorships held	1.27	1.28	1.26	1.38	1.35	1.23	1.22
Mean number of multiple directorships held	3.10	2.83		3.00	2.71	2.39	2.51
Potential company interlocks				7.00	4.42	2.18	2.60
Potential director interlocks			7.97	5.59	3.01	3.32	
Number of companies	160	247	208	221	292	143	133

*Companies with assets of more than $2M only

Sources: [a]Laurent (1971) and Fogelberg and Laurent (1974); [b]Firth(1987); [c]Chandler and Henshall (1982)

TABLE 9.2

Distribution of directorships per director

	1987			*1990*			*1993*		
Number of board memberships	*No. of Directors*	*% of Directors*	*Cumul. %*	*No. of Directors*	*% of Directors*	*Cumul. %*	*No. of Directors*	*% of Directors*	*Cumul. %*
1	1053	79.41	79.41	556	83.73	83.73	567	85.14	85.14
2	165	12.44	91.86	83	12.50	96.23	65	9.76	94.89
3	61	4.60	96.46	13	1.96	98.19	23	3.45	98.35
4	25	1.89	98.34	8	1.20	99.40	7	1.05	99.40
5	13	0.98	99.32	3	0.45	99.85	3	0.45	99.85
6	5	0.38	99.70	1	0.15	100.00	1	0.15	100.00
7	1	0.08	99.77						
8	2	0.15	99.92						
9	1	0.08	100.00						
Total	1326	100.00		664	100.00		666	100.00	
Mean Directorships Held		1.35			1.23			1.22	

9.4 RESULTS

The findings of this study are summarised in the final three columns (1987, 1990, 1993) of Table 9.1 which also contains comparable data from previous New Zealand studies.

9.4.1 Distribution of directorships

A fall in the total number of directors was expected if only because of the impact of the 1987 stock market "crash" on the pool of available directors and the number of listed companies. However, the extent of this fall in director numbers, from 1326 in 1987 to 666 in 1993, was greater than many may have expected. The percentage of directors holding more than one directorship was 14.86% in 1993, compared with 18.90% and 20.59% in 1984 and 1987 respectively.

The mean number of directorships held by each director remained relatively stable over the period 1970 to 1981 but then increases through to 1984. The 1987-93 period indicates a fall to levels slightly lower than in the 1970-81 period (refer Table 9.2). The number of *multiple* directorships per director (i.e., the mean number of directorships held greater than one) ranges from 3.10 in 1962 (and 3.00 in 1984) to 2.51 in 1993. The significance of the fall in multiple directorships in the more recent period since 1984 was confirmed using analysis of variance on the years 1984, 1987, 1990, and 1993 ($F=6.69$; $p<0.01$).

9.4.2 Company and director interlocks

From the first comparable data in 1984, potential company interlocks have fallen from a mean of 7.00 per company to 4.22 in 1987. This general downward trend continues with falls to a low of 2.18 in 1990 and 2.60 in 1993. Analysis of variance on the years 1984, 1987, 1990, and 1993 confirmed the significance of the fall post-1984 ($F=49.37$; $p<0.01$). In 1984 11% of firms had no interlocks: by 1990 this had more than tripled to 36%, and stood at 30% in 1993. The greatest number of potential company interlocks for a firm in 1984 was 26, compared with a maximum of 12 in 1993.

The fall in potential company interlocks is mirrored by a reduction in potential director interlocks (refer Tables 9.3 and 9.4). Potential director interlocks measure the potential ties a company has through the number of directorships the directors on its board hold. As such potential director interlocks give an indication of the potential intensity of the interlocks arrayed around a given company. These interlocks fell from 7.97 mean directorships per company in 1984 (one firm having

directors holding 34 positions on the boards of other companies, Firth (1987), to 3.32 in 1993 (largest number of outside directorships of 14). Once again, analysis of variance was applied to confirm the significance of this fall ($F=38.30$; $p<0.01$).

9.4.3 Influence of company size on interlocks

Previous New Zealand studies have found at least weak evidence of a relationship between company size and the number of company interlocks (per company), and this general relationship is confirmed here. The simple regression of company interlocks per company in 1993 on company size (measured by total assets, $NZ billion) yielded the following:

$$Y = 2.31 + 0.45\,X$$

(t-values) (10.08) (5.12) $R^2=0.17$ ($r=0.41$)

$F=26.22$ ($p<0.01$)

where: Y is company interlocks per company (in 1993)

X is value of total assets ($NZ billion, 1993)

Firth (1987, p.279) reports only the simple correlation coefficient in his study ($r=0.47$) and our replication for 1993 confirms his findings.

9.4.4 Industry analysis

Industry data has been grouped to allow comparison with the data of Firth (1987). Table 9.5 presents a break-down of the average number of potential company and director interlocks for the years 1987, 1990 and 1993.

The industries with the highest levels of potential company interlocks were insurance, liquor, forestry and finance and banking, although the low number of companies in some industries makes it difficult to draw definitive conclusions. These industries also had the highest number of potential director interlocks. Industry positions are not constant over time, perhaps as a result of differing macro-economic conditions faced by individual industries.

However, Firth (1987) also found the insurance and forestry industries to be among those with the most company interlocks. The higher levels of potential interlocks among these particular industries may be in part a function of the large size of firms (and boards) in these industries. While the findings of Firth (1987) are less supportive of the North American findings that financial institutions generate most

TABLE 9.3

Distribution of potential company interlocks

	1987			*1990*			*1993*		
Potential company interlocks	*No. of firms*	*% of firms*	*Cumul. %*	*No. of firms*	*% of firms*	*Cumul. %*	*No. of firms*	*% of firms*	*Cumul. %*
0	42	14.38	14.38	51	35.66	35.66	40	30.08	30.08
1	28	9.59	23.97	26	18.18	53.85	17	12.78	42.86
2	49	16.78	40.75	19	13.29	67.13	22	16.54	59.40
3	26	8.90	49.66	7	4.90	72.03	17	12.78	72.18
4	31	10.62	60.27	14	9.79	81.82	9	6.77	78.95
5	25	8.56	68.84	8	5.59	87.41	7	5.26	84.21
6	29	9.93	78.77	5	3.50	90.91	6	4.51	88.72
7	14	4.79	83.56	6	4.20	95.10	4	3.01	91.73
8	12	4.11	87.67	5	3.50	98.60	6	4.51	96.24
9	5	1.71	89.38	1	0.70	99.30	2	1.50	97.74
10	5	1.71	91.10	1	0.70	100.00	1	0.75	98.50
11	4	1.37	92.47				1	0.75	99.25
12	1	0.34	92.81				1	0.75	100.00
13	5	1.71	94.52						
14	5	1.71	96.23						
15	3	1.03	97.26						
16	4	1.37	98.63						
17	0	0	98.63						
18	2	0.68	99.32						
19	2	0.68	100.00						
Total	292	100.00		143	100.00		133	100.00	
Mean Potential Company interlocks		4.42			2.18			2.60	

TABLE 9.4

Distribution of potential director interlocks

	1987			*1990*			*1993*		
Director interlocks	*No. of firms*	*% of firms*	*Cumul. %*	*No. of firms*	*% of firms*	*Cumul. %*	*No. of firms*	*% of firms*	*Cumul. %*
0	42	14.38	14.38	51	35.66	35.66	40	30.08	30.08
1	20	6.85	21.23	13	9.09	44.76	12	9.02	39.10
2	32	10.96	32.19	18	12.59	57.34	15	11.28	50.38
3	16	5.48	37.67	12	8.39	65.73	16	12.03	62.41
4	37	12.67	50.34	8	5.59	71.33	8	6.02	68.42
5	16	5.48	55.82	12	8.39	79.72	9	6.77	75.19
6	29	9.93	65.75	4	2.80	82.52	7	5.26	80.45
7	20	6.85	72.60	7	4.90	87.41	11	8.27	88.72
8	19	6.51	79.11	6	4.20	91.61	2	1.50	90.23
9	9	3.08	82.19	4	2.80	94.41	4	3.01	93.23
10	10	3.42	85.62	1	0.70	95.10	3	2.26	95.49
11	10	3.42	89.04	3	2.10	97.20	1	0.75	96.24
12	3	1.03	90.07	0	0	97.20	3	2.26	98.50
13	5	1.71	91.78	3	2.10	99.30	1	0.75	99.25
14	7	2.40	94.18	1	0.70	100.00	1	0.75	100.00
15	6	2.05	96.23						
16	2	0.68	96.92						
17	2	0.68	97.60						
18	1	0.34	97.95						
19	1	0.34	98.29						
20	0	0	98.29						
21	0	0	98.29						
22	0	0	98.29						
23	2	0.68	98.97						
24	0	0	98.97						

25	1	0.34	99.32						
26	2	0.68	100.00						
Total	292	100.00		143	100.00		133	100.00	
Mean Potential director interlocks per firm		5.59			3.01			3.32	

TABLE 9.5

Company interlocks and director interlocks by industry sector

	No. of companies			*Mean number of company interlocks*			*Mean number of director interlocks*		
Industry sector	*1987*	*1990*	*1993*	*1987*	*1990*	*1993*	*1987*	*1990*	*1993*
Agricultural	34	13	11	3.9	1.9	3.5	4.4	2.1	4.1
Automotive	4	2	2	3.3	0.5	0.0	3.5	0.5	0.0
Buildings & construction	8	3	2	5.8	0.7	0.0	6.6	0.7	0.0
Chemicals & fertilizers	5	2	2	3.8	1.5	2.0	4.0	1.5	2.5
Electronics & appliances	8	4	4	4.9	2.3	2.5	6.3	5.0	5.0
Energy & fuel	13	7	7	5.2	3.6	3.3	6.4	4.6	3.3
Engineering	11	6	3	4.6	0.5	0.3	5.0	0.5	0.3
Finance & banking	20	7	7	4.7	3.6	4.1	5.5	5.1	5.9
Food	7	4	9	3.3	0.5	2.8	3.7	0.5	2.9
Forestry & forest products	5	7	7	8.6	3.6	3.7	12.4	6.4	5.1
Insurance	2	0	0	10.5	-	-	14.0	-	-
Investment & property	85	30	21	4.5	2.2	2.5	6.3	3.1	3.6
Liquor & tobacco	3	2	2	5.7	7	5.5	6.7	9.0	7.0
Meat & by products	3	3	4	6.0	2	3.5	7.3	2.7	4.8
Media & communications	16	9	5	4.2	1.7	3.6	5.0	2.9	3.8
Medical supplies	5	4	3	6.4	2.8	2.3	7.6	2.8	2.7
Miscellaneous services	16	12	12	3.4	1.3	2.3	3.6	1.5	2.6
Retail	10	7	5	4.3	2.0	1.2	6.4	2.1	1.4
Apparel & textiles	6	2	3	5.0	4.0	2.3	5.8	4.0	2.3
Transport and tourism	18	7	9	4.1	3.1	2.8	4.9	3.9	3.0
Mining & exploration	13	12	15	1.9	1.7	1.5	3.2	3.0	2.5
Totals	292	143	133						

potential interlocks (because of their need to access sources of capital), our 1987-93 data supports this proposition. Again the difficulty in distinguishing investment, property, insurance, finance and banking companies in the recently-deregulated New Zealand environment means that no definitive conclusions can be stated at this stage.

9.4.5 Comparison with Australian findings

The most recent Australian findings are contained in Carroll, Stening and Stening (1990), a study of the top 250 Australian companies (measured in terms of assets) in 1986, and Alexander and Murray (1992) which studied the largest 250 Australian companies in 1991 based on revenue. These studies are not strictly comparable to the 1987-93 New Zealand data because of their bias towards the larger Australian companies. Nevertheless the data for the two countries are informative and these are presented in Table 9.6.

TABLE 9.6

Australian and New Zealand comparative data

	*Australia**		*New Zealand*	
	1986[a]	*1991*[b]	*1987*	*1990*
Mean directorships per director	1.31	1.19	1.35	1.23
Mean multiple directorships	2.57	2.54	2.71	2.39
Multiple directors as a proportion of all directors (%)	19.51	12.36	20.59	16.27
Potential interlocks per company	6.58	4.38	4.42	2.18
No. of companies	250	250	292	143
No. of directors	1640	1755	1326	664

*Sample consists of the top 250 companies in each year.
Sources: [a]Carroll, Stening and Stening (1990), corrected by Alexander and Murray(1992); [b]Alexander and Murray(1992) and Alexander, Murray and Houghton (1994).

New Zealand companies appear to have a similar mean number of directorships held; and similar proportions of directors holding more than one directorship (21% and 16% for New Zealand in 1987 and 1990 respectively: and 20% and 12% for Australia in 1986 and 1991 respectively). This is reflected in the comparative incidences of company interlocks in the two countries and a lower number of directors in New Zealand, giving New Zealand the lower level of potential corporate interlocks.

9.5 DISCUSSION AND CONCLUSIONS

We begin by discussing some implications of our findings and conclude with one explanation for what we have found and suggestions for further research. If the significance of a network of corporate power is measured by the level of potential interlocks between companies, this chapter shows conclusively that such power has declined significantly in New Zealand between 1984 - as reported in Firth (1987) - and the early 1990s. Potential interlocks have decreased because of falling board sizes and a reduced number of directorships held by each director. It appears from the 1993 data that multiple directorships may be set to rise slowly from a low in 1990.

Allowing for the different sample selection methods pointed to above, there are few marked differences between the corporate networks of Australia and New Zealand. The main area of difference are that New Zealand companies have fewer potential company interlocks. Resource dependence theorists (for example, Pfeffer, 1987) propose that interlocks are a means to reduce the environmental uncertainties created by resource dependencies between organisation. Interlocks become ways to co-opt the environment and diffuse information (Pettigrew, 1992, p.166). In this light, the decrease in potential interlocks over the period under review here could be seen as harmful, introducing increased uncertainty into organisational decision making.

Firth (1987, p.280) sought to explain what he saw as "the high level of interlocking in New Zealand" in terms of the need for companies to collude to increase their international competitiveness. Firth was writing in the mid-1980s, using data covering up to 1984. Since then New Zealand has further liberalised its international trading stance: the currency has been floated; import controls and licences have been either abolished or converted into tariffs; and export subsidies have been withdrawn. The result of all of this has been to make more imperative than ever the need to be internationally competitive. If Firth's explanation had been valid, we should have observed further increases in interlocks post-1984 when, in fact, we find conclusive evidence of the opposite trend.

We contend that the observed decline in networks in New Zealand is a direct consequence of the rapid agglomeration of corporate assets in New Zealand since 1984. In 1984, the largest five listed companies listed on the New Zealand Stock Exchange accounted for 36.5% of the total assets of all companies listed at that time, and the largest ten companies accounted for 48.7% of the total (Hamilton, 1991). By 1993, on

this same share of assets basis, the top five listed companies account for 68.5%, and the top ten control 84.5% of total assets. Networks of interlocks, the precursors of this process of agglomeration, have been usurped by it and hence are in decline. Corporate power in New Zealand is now much more narrowly concentrated.

The intent of this chapter was to update research on interlocking directorates in New Zealand and provide the groundwork for future research. It would be useful to follow this up with work to identify when and how potential interlocks become active (Davis and Powell, 1992; Pettigrew, 1992), and if indeed they are the harbinger of mergers and acquisitions. The aim should be to produce a process model describing the relationship of interlocks, potential and active, to observed organisational behaviour.

Chapter 10

FOREIGN CONTROL

10.1 INTRODUCTION

This chapter adds to our knowledge of foreign control of New Zealand listed companies. As we shall see, this knowledge is important in light of the benefits and potential negative consequences that foreign control can have for investors on the New Zealand sharemarket and corporate governance. In the next section we look at foreign equity investment into New Zealand between 1989 and 1993. Next, we proceed to examine foreign control of New Zealand listed companies. Evidence that foreign control has increased is supported by a study of the Top 40 New Zealand Stock Exchange companies. Having established an increase in foreign control of New Zealand listed companies we ask why this increase occurred and examine the benefits and possible negative consequences of foreign investment in such companies.

10.2 FOREIGN EQUITY INVESTMENT INTO NEW ZEALAND

In recent years there has been a significant increase in foreign equity investment into New Zealand. Statistics New Zealand report that foreign equity investment was $9.8 billion in the year to March 1989; this increased to $23.3 billion for the year to March 1993. This is an increase of some 137 per cent (refer Table 10.1).

The data for foreign direct investment (FDI) in New Zealand companies are particularly interesting.[14] FDI increased from $8.4 billion in 1989 to $22.3 billion in 1993, an increase of some 165 percent (refer Table 10.1). In contrast, portfolio investment, which is non-direct investment in, for example, stocks and bonds, declined from $1.4 billion in 1989 to $0.9 billion in 1993, a decline of some 32 per cent. Thus, the changes in equity investment that have occurred have increasingly resulted in the foreign investor gaining some form of control of New Zealand companies.

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[14] Direct investment is any investment made to acquire 25 per cent or more of the voting shares in a company, the purpose of the investment being to gain a voice in the management of the company.

TABLE 10.1

Foreign equity investment in New Zealand companies ($NZ Millions)

	1989	*1990*	*1991*	*1992*	*1993*
Direct Investment	8 412	12 293	13 294	17 703	22 316
Portfolio Investment	1 378	1 561	1 766	769	932
Total	9 790	13 854	15 060	18 472	23 248

Source: Hot off the Press (1994).

10.3 FOREIGN CONTROL OF NEW ZEALAND LISTED COMPANIES

Having noted - in *Chapter 8* - an increase in ownership concentration among listed companies and, above, a general increase in foreign equity investment in recent times, we decided to ask: to what extent is the increase in ownership concentration a result of increasing foreign investment? With this in mind we collected data on foreign ownership for those companies that were in our original control classification samples for the years 1985, 1990 and 1993. This simply involved identifying whether or not the controlling shareholder(s) in terms of Fogelberg's classification scheme (as given in *Chapter 8*) were of local or foreign origin. Information on the country of origin of controlling shareholders was obtained from annual reports and the relevant editions of the *Directory of Shareholders New Zealand Public Listed Companies.*

Table 10.2 shows data collected on foreign control of New Zealand listed companies for the years 1985, 1990 and 1993. From this table, we observe that there has been a significant increase in foreign control of New Zealand listed companies between 1985 (when 16.8 per cent of all listed companies were foreign controlled) and 1993 (when 39.7 per cent of listed companies were foreign controlled).

Two chi-square tests confirm that major changes in foreign versus domestic control of listed companies occurred within our control categories. For the first chi-square test, we find that, for 1990 there is a significant difference in the distribution of companies among control categories, compared to what we expect from the 1985 data (chi-square statistic=52.65; 5 degrees of freedom; significant at alpha=0.005). We also find a comparable change for companies listed in 1993, compared to what we expect from the 1990 data (chi-square statistic=30.28; 5 degrees of freedom; significant at alpha=0.005).

TABLE 10.2

Foreign control and control types of New Zealand listed companies: 1985, 1990 and 1993

	1985			*1990*			*1993*		
Control classifications	*Foreign controlled*	*Total*	*Foreign controlled/ total (%)*	*Foreign controlled*	*Total*	*Foreign controlled/ total (%)*	*Foreign controlled*	*Total*	*Foreign controlled/ total (%)*
Majority	18	54	33.3	21	73	28.8	31	58	53.4
Minority	6	69	8.7	12	52	23.1	14	48	29.2
Joint	0	10	0	0	4	0	1	7	14.3
Management	0	10	0	0	5	0	0	3	0
Totals	24	143	16.8	33	134	24.6	46	116	39.7

From Table 10.2 we observe several major changes in foreign control. First, between 1985 and 1990 foreign controlled companies having the minority control classification rose from 8.7 per cent to 23.1 per cent of all companies examined. Also, between 1990 and 1993 the percentage of all companies having the majority control classification rose from 28.8 per cent to 53.4 per cent. During this later period foreign minority controlled companies increased from 23.1 to 29.2 per cent and foreign joint controlled companies increased from zero to 14.3 per cent.

10.4 FURTHER EVIDENCE: NEW ZEALAND STOCK EXCHANGE TOP 40 COMPANIES

The evidence presented above is further supported if we examine foreign ownership of equity in New Zealand Stock Exchange Top 40 companies.

The sample comprises the largest 40 companies on the New Zealand Stock Exchange, in terms of market capitalisation, at seven points in time, starting in December 1989 and ending in September 1993. Shareholder data for the top 40 shareholders of each top 40 company was examined to classify investors as either: local institutions; overseas institutions; local companies; overseas companies; or Employee Share Ownership Plans (ESOPs). A further classification of *other* was given to private investors who were in the top 40 list of shareholders and all investors that did not make the top 40 list of shareholders. When interpreting the data this means that the *other* category is likely to be overestimated and all other categories underestimated.

TABLE 10.3

Ownership structure of the New Zealand sharemarket, 1989 to 1993

Type of Investor	Dec 1989	March 1991	August 1991	March 1992	Dec 1992	March 1993	Sept 1993
Local institutions	16	14	12	12	14	15	17
Overseas institutions	10	17	22	23	24	25	27
Local Corporates	21	15	11	11	10	9	7
ESOPs	4	8	4	4	4	4	3
Overseas corporates	9	6	20	20	20	19	16
Other	40	40	31	30	28	28	30
Totals							
Institutions	26	31	34	35	38	40	44
Corporates	30	21	31	31	40	28	23
Overseas	19	23	42	43	44	44	43

Source: Ownership structure of the New Zealand Stockmarket (September 1993; March 1991), Doyle Paterson Brown Ltd

The top 40 list of shareholders was provided by Datex Services Ltd and was drawn directly from information held by the share registrars of each company. Table 10.3 shows the ownership structure of the sample between December 1989 and September 1993. With regards foreign ownership, we note that between December 1989 and September 1993 there was an increase in average overseas investment from 19 per cent per company to 43 per cent. Furthermore:

- total institutional investment rose significantly over the period, from 26 to 44 per cent

- between December 1989 and March 1992 local institutions reduced their holdings from 16 to 12 per cent, but this group increased their holdings after March 1992 (to 17 per cent in September 1993)

- overseas institutions significantly increased their holdings (from 10 to 27 per cent)

- total corporate investment declined significantly between December 1989 (30 per cent) and March 1991 (21 per cent), increased significantly to December 1992 (40 per cent) and has since dropped (to 23 per cent in September 1993)

- local corporates significantly reduced their holdings, from 21 to 7 per cent

We observe from the above that, while foreign investment in top 40 companies rose significantly over the period of interest, much of this change is attributable to institutional as opposed to corporate investors.

A further study (Gaynor, 1993) confirms the observed trend towards increased foreign control of New Zealand listed companies. Gaynor found that overseas investors owned 4.2 per cent of the New Zealand stock market (in terms of market capitalisation) in December 1986, compared to 30 per cent in December 1992.

10.5 REASONS FOR INCREASED FOREIGN INVESTMENT INTO NEW ZEALAND

It is instructive to ask why the observed increase in foreign investment in New Zealand listed companies has taken place. The main reason relates to the process of economic deregulation which has taken place in New Zealand; a process which

started in 1984, under Sir Roger Douglas, the then Minister of Finance. Economic deregulation has resulted in New Zealand moving from one of the "most regulated societies in the free world, to the world's freest market economy" (Passow, 1992, p.5). Deregulation, and in particular the *Employment Contracts Act* 1991 has made New Zealand companies more competitive and has as a consequence drawn the attention of foreign investors (*The Economist*, 1993). New Zealand's manufacturing sector is now seen to be "... on average, 15 per cent more competitive than those of its major trading partners and 30 per cent more cost advantageous over its leading trade partner, Australia" (Passow, 1992, p.5).

New Zealand's current FDI regime has been described as "very liberal [with there being a] lack of restrictions on capital inflows" (Colgate and Featherstone, 1992, p.2). From a policy viewpoint, high levels of overseas debt have led various governments to encourage FDI. As Colgate and Featherstone (1992) write:

> ... the combination of low economic growth and relatively small domestic capital markets makes FDI an attractive option to help fund investment growth. Second, FDI provides an alternative to the use of debt to finance New Zealand's persistent current account deficits, and could therefore be seen as part of a strategy to reduce overseas debt ratios to more acceptable levels (Colgate and Featherstone, 1992, p.2).

Another major factor that has led to increased foreign investment in New Zealand is the increasingly global nature of investment by funds managers, especially, by funds managers in the U.S. This diversification of global investment has occurred for several reasons: (1) the increasing attractiveness of countries in Asia for investment; (2) the increasing size of pension funds in the United States[15]; (3) a stagnant U.S. economy.

Increasing international exposure by some large New Zealand companies has led to an improved international awareness of New Zealand as an investment destination. Some of New Zealand's largest companies are listed on overseas exchanges: Brierley's shares are also traded on the Australian and London stock exchanges; Fletcher Challenge ordinary shares are traded on the Australian, London, Toronto, Montreal, Vancouver and Frankfurt stock exchanges. In particular the listing of Telecom locally and internationally (Telecom is also listed on the Australian and New York stock exchanges), and the high profile acquisition of a major stake in this company by two large U.S. telecommunications companies - Ameritech and Bell

[15] It is estimated that today funds invested in pension funds equal funds invested in savings, whereas ten years ago savings were approximately 10 times higher than pension fund investments.

Atlantic - increased awareness among international investors of New Zealand as an investment destination.

New Zealand has also become increasingly appealing to foreign investors because of our GATT (General Agreement on Trade and Tariffs) exposure. Our agricultural industry is seen to be the most competitive in the world and therefore New Zealand is seen to be in a position to benefit greatly from increased international trade liberalisation under GATT.

Finally, the increase in the number and size of unit trusts internationally has led to more funds being invested globally.

10.6 ADVANTAGES OF FOREIGN INVESTMENT

The major benefit of increased foreign investment relates to the ease with which New Zealand listed companies can raise equity. Raising initial finance is seen to be particularly difficult in New Zealand, because we suffer from endogenous capital constraints. Take, for example, the following observations:

> New Zealand lacks much of the financial expertise and advanced specialised-capital markets that have helped industry in other nations (Crocombe, Enright and Porter, 1991, p.111).

> Large and sophisticated capital markets by definition offer a broad range of sources of debt and equity funding. The New Zealand market, however, is limited in size. Consequently, a small company seeking capital can soon eliminate possible sources which a large market might be willing, due to competitive pressures, to accept [at] higher levels of risk (Coopers and Lybrand, 1993, p.38).

The problem of raising initial finance is particularly noticeable for large raisings. This problem was mentioned by Crocombe, Enright and Porter (1991) who stated that "limited capital availability in New Zealand constrains business development and economic growth. Lenders and investors have limited amounts of capital to invest" (Crocombe, Enright and Porter, 1991, p.114). It is beneficial for New Zealand listed companies, and in particular large listed companies, to be able to raise equity through share placements to foreign investors.

A further benefit of foreign ownership relates to liquidity of shares, i.e., the ease with which shares can be purchased and sold. Liquidity obviously increases as more investors are involved in trading on the New Zealand Stock Exchange.

Foreign investors may bring management expertise to bear on the New Zealand companies in which they invest, leading to improved performance. Carter Holt Harvey is an example where the management expertise of a new foreign shareholder (American company International Paper) was pivotal in restructuring, and improving corporate performance. International Paper appointed one of their senior executives - David Oskin - as Carter Holt's new Chief Executive Officer. In addition to Oskin, two International Paper directors were appointed to Carter Holt's board of directors. Access to technology is another area where New Zealand companies can benefit from foreign ownership. For example, Milburn New Zealand is changing from coal to waste oil fuelled furnaces. This change which was brought about through an association with Milburn's major shareholder, a Swiss company. This move is expected to improve Milburn's profitability.

10.7 POSSIBLE NEGATIVE CONSEQUENCES OF FOREIGN INVESTMENT

Perhaps the most disconcerting aspect of increased foreign investment is the possibility that capital flight may occur. Foreign investors may liquidate their holdings in New Zealand companies because of local events, such as perceived political uncertainty under an MMP electoral system. The first MMP election will be held before November 1996. In discussing MMP, ANZ McCaughan (1994) note that "the general consensus is that New Zealand's country risk premium has risen as a consequence of electoral uncertainty" (p.2).

There is some evidence (Fatehi and Safizadeh, 1994) that foreign investors will react differently to political instability depending on the industry or industries in which they invest. Therefore, the extent to which perceived political instability has negative consequences for New Zealand companies is likely to reflect the perceived impact on the industries in which these companies operate.

International events may also prompt capital flight, for example, relative returns in other investment destinations become more appealing than returns available in New Zealand. Capital flight would have a major detrimental effect on New Zealand companies and New Zealand investors. It is estimated that approximately half the equity in New Zealand listed companies is foreign owned, therefore if a significant proportion of this was liquidated share prices could drop until local investors enter the market. These concerns are highlighted by Brian Gaynor's comment that:

> If the trend towards increasing overseas investment continues ... the New Zealand sharemarket will then become increasingly vulnerable to any

changes in perception of New Zealand by overseas investors (Gaynor, 1993, p.49).

By far the most controversial aspect of foreign investment is the possible effects on the sovereignty of New Zealand as a nation. Concerns over sovereignty invariably relate to listed companies in which New Zealanders, through an ownership stake held by the government, have an interest. In recent times, two such companies were the Bank of New Zealand, which was taken over by National Australia Bank, and Telecom, in which two American companies acquired a substantial interest. Objections to foreign ownership in such cases can be made on grounds that foreign ownership: (1) leaves the government "with less options in dealing with the control of the economy" (Kelly, 1992); (2) leaves New Zealand open to exploitation by foreign companies or countries; (3) may result in loss of employment for New Zealanders; (4) profits of the acquired companies will go overseas.

The prospect of the abuse of New Zealand's resources is another possible negative consequence of foreign ownership. For example, if an international company with a controlling interest in a New Zealand forest was pushed for cash they may cut down forests before their optimal logging time and sell them as logs rather than process the logs further in New Zealand.

Finally, foreign investors may use their ownership in New Zealand companies to provide them with leverage to exploit New Zealand as a market, leading to increased imports and a decline in the trade balance. Yet another potentially harmful result of foreign ownership involves research and development, with foreign investors tending not to do their research and development in New Zealand.

10.8 CONCLUSIONS

We have found that there has been a significant increase in foreign control of New Zealand listed companies over recent years. In particular, the ownership of equity in listed companies by overseas institutions has increased markedly over recent years. These changes in the ownership of New Zealand listed companies have occurred primarily as a by-product of economic deregulation and has resulted in several obvious benefits to New Zealand investors and companies alike.

The benefits of foreign investment in New Zealand listed companies appear substantial. There are, however, several potential negative consequences; foremost among which is capital flight. This should not be a concern as long as New Zealand

companies continue to perform well in comparison with investment targets in other countries.

In the next chapter we further explore the current influence of institutional investors, both foreign and domestic, in New Zealand listed companies.

Chapter 11

INSTITUTIONAL INVESTMENT

11.1 INTRODUCTION

In the previous chapter we found that institutional investors have increased their influence in New Zealand listed companies. However, institutional investors are not an homogenous group. In fact, there are different types of institutional investors. In this chapter we explore the influence of these different types of institutional investors in New Zealand listed companies. In doing so we adopt the same method as a recent Australian study (Ramsay and Blair, 1993), and make comparisons with that study.

11.2 METHODOLOGY

In collecting and interpreting data for New Zealand companies we followed the same procedure as Ramsay and Blair (1993, p.166). Data was obtained from the *Directory of Shareholders New Zealand Public Listed Companies 1994*. This publication lists the major shareholders of New Zealand listed companies in January 1994. The sample comprises the 127 companies who had ordinary shares listed on the New Zealand Stock Exchange at this time. For each company we recorded the percentage of ordinary shares held by each of the top 20 shareholders. This was done because we believed that the top 20 shareholders would, by implication, also be the most (potentially) influential shareholders by virtue of the voting power their shareholdings entitle them to.

Following the identification of the top 20 shareholders, we noted which of these shareholders could be classed as institutions. Institutional investors were classed as either: banks, bank nominee shareholders, insurance companies, or superannuation, retirement fund and trustee company shareholders. As with Ramsay and Blair's study

of Australian listed companies, we also noted occurrences of institutions holding between 5 and 10 per cent of shares, or holding more than 10 per cent of shares.[16] In the following section we discuss our findings with regards each type of institutional investor.

11.3 TYPES OF INSTITUTIONAL INVESTORS AND THEIR SHAREHOLDINGS

11.3.1 Insurance companies

Table 11.1 shows our results for insurance company shareholders. This type of institutional investor was observed to be listed a total of 52 times amongst the five major shareholders of all 127 companies (i.e., among 635 shareholding positions). This equates to 8.2 per cent of the observed shareholding positions. This contrasts with Ramsay and Blair who found that insurance companies were listed 74 times amongst the largest 5 shareholders in their Australian sample i.e., 14.8 per cent of the observed shareholding positions. It, therefore, appears that insurance companies are more prevalent among the largest shareholders of Australian as compared to New Zealand positions. Furthermore, it appears that the ownership stakes of insurance companies in Australian listed companies is larger than that for New Zealand listed companies. In total we only found 7 occurrences in our sample where insurance companies held between 5 and 10 per cent of shares. In contrast, Ramsay and Blair found 38 such occurrences in their sample of 100 companies. In looking at insurance companies with over 10 per cent of shares we only found two such cases, whereas Ramsay and Blair found 12.

From Table 11.1, we note that four insurance companies, namely Colonial Mutual, National Mutual, Norwich Union and NZI Corporation, hold noticeably more dominant positions in listed companies than do any other insurance companies.

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[16] As an aside, we also noted the owership concentration for the top 5, top 10 and top 20 shareholders. For the companies in our sample, the largest 5 shareholders on average held 61% of issued shares; the 10 largest shareholders held 68%; and the 20 largest shareholders held 73%. These figures for the largest 5 and largest 10 shareholders are higher than those found in Ramsay and Blair's (1993) sample of 100 Australian companies. They found that the 5 largest shareholders held 54%, the 10 largest held 64% and the 20 largest held 72%.

TABLE 11.1

Insurance company shareholders

	Number of times company is listed in the five largest shareholders	*Number of times company holds between 5 and 10% of shares*	*Number of times company holds more than 10% of shares*
Colonial Mutual Life Assce	9	2	0
National Mutual Life Assn	10	1	0
Norwich Union Life Ince	10	1	0
Tower	5	1	0
AMP Society	4	2	0
NZI Corpn	7	0	2
Sun Alliance Life	4	0	0
Guardian Royal Exchange Assce	0	0	0
Oceanic Life Ltd	1	0	0
Prudential Assce	1	0	0
All others (8 companies)	1	0	0
Total	52	7	2

11.3.2 Banks

Ownership of equity in New Zealand listed companies by banks is limited (refer Table 11.2). This is primarily because the *Reserve Bank Act* 1989 discourages banks from having substantial shareholdings (under the Act equities owned by New Zealand registered banks are deducted from the bank's equity in determining the bank's capital ratio).

TABLE 11.2

Banks as shareholders

	Number of times company is listed in the five largest shareholders	*Number of times company holds between 5 and 10% of shares*	*Number of times company holds more than 10% of shares*
Bank of New Zealand	1	0	1
National Bank of NZ	4	2	1
National Bank of Aust	1	0	0
Westpac Banking Corp	1	0	1
Total	7	2	3

11.3.3 Bank nominee companies

Table 11.3 shows our New Zealand results for bank nominee companies. An important point with regards interpretation of data such as that we present here is made by Ramsay and Blair (1993) who caution that:

> ... there is an issue as to whether bank nominee companies can be classified as institutional investors. This is because bank nominee companies are an aggregation of a diverse range of individual and institutional investors (Ramsay and Blair, 1993, p.185).

For our sample of 127 New Zealand companies we found bank nominee shareholders were represented a total of 175 times among the largest 5 shareholders i.e., they represented 27.6 per cent of the top 5 shareholder positions examined. In contrast, Ramsay and Blair found 169 occurrences of bank nominee shareholders among 500 shareholding positions, or 33.8 per cent of positions examined.

Bank nominee companies were also seen to be more likely to have shareholdings between 5 and 10 per cent (57 occurrences for the New Zealand sample vs. 70 occurrences for the Australian sample). However, New Zealand bank nominee companies were more likely to hold over 10 per cent of shares (42 occurrences) compared to Australian bank nominee companies (29 occurrences).

TABLE 11.3

Bank nominee shareholders

	Number of times company is listed in the five largest shareholders	*Number of times company holds between 5 and 10% of shares*	*Number of times company holds more than 10% of shares*
ANZ Bank Ltd nominee	63	26	8
Austraclear	56	18	16
Bank of NZ Nominee	7	2	0
CBA Nominees	0	0	0
Chase Manhattan Nominees	1	0	0
Citibank NZ Nominee	2	0	0
Hong Kong and Shanghai Bank Nominee	4	2	1
National Aust Bank nominee	35	9	16
Westpac Bank nominee	7	0	1
Total	175	57	42

11.3.4 Superannuation, retirement fund and trustee company shareholders

Table 11.4 shows the New Zealand results for superannuation, retirement fund and trustee company shareholders. Such institutional shareholders were represented a total of 11 times among the 5 largest shareholders of all 127 companies, i.e., they comprised only 1.7 per cent of the positions analysed. This contrasts notably with Ramsay and Blair's study where such companies were listed a total of 20 times, i.e., represented 4 per cent of positions analysed. For our New Zealand sample no institutional investor of this category held 5% or more of shares. In contrast, Ramsay and Blair found 6 cases in Australian companies where institutional investors held between 5 and 10% of shares.

TABLE 11.4

Superannuation, retirement fund and trustee company shareholders

	Number of times company is listed in the five largest shareholders	*Number of times company holds between 5 and 10% of shares*	*Number of times company holds more than 10% of shares*
Westpac Superannuation Nominees	8	0	2
Superannuation Investments Ltd	1	0	0
Colonial Mutual Superannuation	2	0	0
Total	11	0	2

11.4 IMPLICATIONS FOR CORPORATE GOVERNANCE

Bank nominee companies appear to be the largest institutional shareholders in New Zealand listed companies. But, as bank nominee companies may hold shares on behalf of individuals or non-institutional companies, the influence of this group is indeterminable. However, we can confidently say that insurance companies are among the most influential major shareholders in New Zealand listed companies. The potential influence of banks and superannuation, retirement fund and trustee company shareholders appears minimal.

The rise of institutional investors, as identified in *Chapter 10* and investigated in more detail above, has important implications for corporate governance. Benefits may be apparent for both capital markets and the monitoring of listed companies. Hill and Ramsay (1994) in a review of the research on institutional investment, capital markets efficiency and liquidity, noted that companies with higher levels of institutional ownership more frequently released information, had less variability in

their share returns and that "shares traded heavily by institutions experience rising turnover, declining volatility, and narrowing bid-ask spreads" (p.298). The obvious concern one should have with the studies reviewed by Ramsay and Blair relates to causality: institutional investors may not lead to the positive outcomes just mentioned; rather institutional investors may be more likely to invest in companies with these characteristics. Given this, we should treat the findings mentioned with caution.

In addition to possible capital market efficiencies institutional investors may, by monitoring the companies they invest in, effect significant changes in corporate governance and strategy that will benefit all shareholders. Black (1992) mentions several areas where monitoring by institutional investors may add significant value. The first involves the appointment of independent directors. Such directors are seen to benefit corporate performance for several reasons, one of which relates to their independence from management which, in theory, allows them to appraise the performance of management more effectively. Monitoring managerial performance is a governance function which is compromised when executive directors dominate a board of directors. Awareness of the desire of investors for independent representation on boards is a factor which has led some New Zealand boards to increase independent director representation on their boards. For example, Brierley Investments Limited (BIL) stated in their 1992 Chairman's Report:

> This board is aware of the investment community's view that boards should comprise significant numbers of non-executives. Accordingly as we review our own situation it is appropriate to have the means of accommodating any future additions (p.7).

A second area where institutions can positively influence corporate performance is by discouraging excessive diversification. This can add value to investment targets as some forms of diversification (e.g., into related areas) are more beneficial to performance than are others e.g., diversification into unrelated product areas (Hamilton and Shergill, 1993a). Executive compensation is also an area where institutions can play a role in increasing firm value. Concern over what may be seen as excessive executive compensation has been expressed in the popular business press (Business Week, 1991; New York Times, 1992). A recent New Zealand example of institutional intervention in this area relates to the executive share option scheme which BIL attempted to introduce in late 1993. This scheme was abandoned (although it may reappear again according to Brierley's Chairman, Bob Matthew)

following private approaches to BIL by institutional investors, and public concern over the scheme (Walker and Fox, 1994).

Another area where institutional shareholders can wield influence is voting rights. For example, in Australia, Rupert Murdoch informed shareholders in News Corporation that he wanted to change the voting rights in the company's shares; a change which would have seen the Murdoch family have greater voting rights attached to their shares, compared to those of other shareholders. The AIMG (Australian Investment Managers Group) subsequently defeated Murdoch's proposal. More recently, institutional investor in Goodman Fielder forced an extraordinary meeting at which they intend to replace much of the company's board of directors (McEwen, 1994).

11.5 CONCLUSIONS

Institutional investors, and in particular insurance companies, are among the most influential groups of investors in New Zealand listed companies. On a global basis institutional investors are playing a more active role in the direction and monitoring of the companies in which they invest. There is also some evidence that in New Zealand institutional investors are playing are being more active.

Chapter 12

SUMMARY, IMPLICATIONS AND SCOPE FOR FUTURE RESEARCH

12.1 INTRODUCTION

These studies have sought to investigate a number of issues relating to the corporate governance of New Zealand listed companies. In this regard the study makes several contributions to the governance literature. First, a greater understanding of some of the central issues in corporate governance is achieved. Second, given the lack of governance research in New Zealand, our understanding of corporate governance in New Zealand is brought up to date.

12.2 SUMMARY OF FINDINGS

The overall findings of this thesis are summarised below, under their relevant chapter headings:

Corporate governance and corporate strategy

- from the case studies examined ownership changes appear to be the necessary driving force behind divestment decisions.

- in particular, a change in the identity of a major shareholder emerges as a necessary prerequisite to the divestiture of poorly-performing activities.

Corporate governance and corporate failure

- companies having a majority of outside directors in 1985 were significantly more likely to fail before 1990 than were companies that did not have a majority of outside directors.

- we also found that companies which did not have a divisional structure in 1985 were more likely than companies that did have such a structure to fail before 1990.

Corporate control and financial performance

- in terms of Fogelberg's (1980) classification scheme, the incidence of majority control of New Zealand listed companies has increased between 1962 (16.3% of companies were majority controlled) and 1993 (when this statistic was 50%).

- there has also been a significant change in the incidence of management control of New Zealand listed companies from 39.5% in 1962 to only 2.6% in 1993.

- ownership was not found to be associated with future financial performance (ROA and ROE).

- companies which perform poorly in terms of ROA are likely to have larger relative changes in their ownership than companies who only perform moderately well in terms of ROA.

Board structure of New Zealand listed companies

- the board size of New Zealand listed companies has declined since 1962 (mean of 7.2 members) to 1993 (mean of 6.1 members).

- the number of outsiders on boards has declined since 1980 (mean of 5.5) to 1993 (mean of 4.6).

- the proportion of outsiders on boards has remained reasonably stable between 1980 and 1993 (around 75%).

- between 1980 and 1993 outsiders dominated boards, with around 80 per cent of boards having more than half of their members as outsiders.

- the incidence of CEO duality is rather low (around 14 per cent of listed companies in 1993).

International comparisons of board structure

- it appears likely that there are differences in board structure between New Zealand and each of the United States, United Kingdom and Australia.

Board composition and company performance

- meta-analyses indicate that: larger boards and boards with a higher proportion of outsiders are positively associated with higher financial performance.

Determinants of board composition

- the board structure of New Zealand listed companies appears irrelevant in determining financial performance, although board size was found to be a significant predictor of ROE during a time of environmental turbulence.

- firm size was found to be the only major determinant of board structure.

Potential company and director interlocks

- there has been a large decrease in potential company and individual director interlocks were found to have decreased since 1984.

Foreign control

- foreign equity investment into New Zealand has increased from $9.79 billion in 1989 to $23.25 billion in 1993, an increase of 137 per cent.

- between 1985 and 1993, foreign control of New Zealand listed companies has increased from 16.8 per cent to 39.7 per cent of listed companies.

- with regards the Top 40 listed companies: the average shareholding by foreign investors has increased from 19% (December 1989) to 43 per cent (September 1993). Over the same time the average institutional investment in Top 40 companies rose from 10% to 27%.

Institutional investment

- insurance companies are the major institutional shareholding group in New Zealand listed companies, holding 52 shareholding positions amongst the top 5 major shareholders of all 127 companies in our sample.

- banks play a limited role in institutional investing in New Zealand, holding only 7 shareholding positions amongst the top 5 major shareholders of all 127 companies in our sample.

12.3 SCOPE FOR FURTHER RESEARCH

Research on corporate governance is highly topical and (potentially) highly relevant. Perhaps inevitably, corporate governance research to date, including that undertaken in this thesis, has typically examined largely transparent aspects of boards of directors, e.g., board size, number (and proportion) of outside directors, CEO duality. This situation has no doubt largely arisen due to the relative ease with which these variables can be obtained for research purposes. A more useful approach may be gained from asking questions such as: Why are some boards more effective than others? What is an effective board? In the event that such an approach were taken it is likely that more intangible, but perhaps more important factors may be highlighted, than have hitherto being identified.

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Appendices

Appendix 1[17]

MEASURING STRATEGY

The strategic dimension of interest in this thesis is the degree of diversification engaged in by New Zealand public companies during either 1980-85 or 1985-90. As New Zealand companies are not required to publish sales data on an individual product or market basis, we were limited in terms of the strategy measurement schemes that we could adopt. We adopted what is essentially a product count approach to measure diversity, specifically that framework developed by Varadarajan and Ramanujan (1987).

To apply the chosen framework we collected annual reports of all public companies listed during either 1980-85 (148 companies) or 1985-90 (54 companies).[18] The individual products and/or services of each company were identified for the first and final year for which the sample was chosen. We then allocated these products and services the appropriate two and four-digit industry codes within the 1988 New Zealand Standard Industrial Classification (SIC) system. This is the first requirement of the method in Varadarajan and Ramanujan (1987). The next step is best explained with reference to Table A.

From Table A, *broad spectrum diversification* (BSD) is simply the integer number of broadly-defined two-digit SIC industries in which a company is operating. *Mean narrow spectrum diversification* (MNSD) is, for each company, the number of the more narrowly defined four-digit SIC industries in which it operates, divided by its BSD number. Thus, a company which operates in only one two-digit industry and, within this, in a single four-digit industry, would fall into cell A as having *very low diversity*. If this same company were to diversify into numerous other four-digit industries but all within the same two-digit scope, then it would fall into cell B (*related diversified*). If, instead of diversifying into a number of four-digit industries, this company had chosen to move into a large number of other two-digit industries,

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[17] The contents of this appendix are based largely on Hamilton and Shergill (1992).
[18] All mineral exploration and finance companies.

it would become a candidate for either cell C or cell D. If only one or two four-digit activities were carried out in each two-digit industry, then cell C would apply (*unrelated diversification*). Where a company is involved in many two-digit level areas and, within these, is also spread widely across numerous four-digit industries, then it is deemed to be *very high diversified* and classified to cell D.

TABLE A

Measuring diversification strategies

Broad spectrum (BSD)	Mean narrow spectrum (MNSD)	
	Low	*High*
High	Cell C Unrelated diversified	Cell D Very high diversity
Low	Cell A Very low diversity	Cell B Related diversified

Companies in our two samples were classified to a cell of figure 1 for the start and end points at which the sample was taken. The distinction between high and low in all three years was made relative to the 1980 mean values of BSD (=3.17) and MNSD (1.71).

The main weakness of this measure is that it does not reflect the relative scale of the SIC areas in which a company is operating. Montgomery (1979) has validated the use of SIC-based measures in the study of company diversification.

Appendix 2

LIST OF COMPANIES IN SAMPLES AND THEIR PRODUCTS, STRATEGY AND STRUCTURE

This appendix lists all firms listed on the New Zealand stock exchange between either 1980-85 (129 firms) and 1985-90 (54 firms). The strategic and structural classifications and summary of the information on products which we used to derive strategic classifications are given in the following format for each company:

Strategic symbol	*Strategic class*
A	Very low diversity
B	Related diversified
C	Unrelated diversified
D	Very high diversity

Structural symbol	*Structural class*
F	Functional
H	Holding Company
D	Divisional

ABACUS CONSOLIDATED LTD
(formerly: British Office Supplies N.Z. Ltd)

1980 Retailers of office equipment D H
- chairs
- desks in steel and wood
- commercial and domestic stationery
- filing systems and cabinets
- calculators and copying machines
- office layout and planning
- curtains and carpets

Manufacture of steel office equipment
Interior decorators
- commercial and domestic

carry a wide range of imported curtain and upholstery fabrics,
exclusive suits and chairs
Importing of drawing office equipment
Printers of business cards and letterheads,

1985	Exited all of above except Office equipment manufacture Added: Packaging Disposable cup manufacture Thermoforming Injection moulding Car tyre retreader Tyre retailer	C H

AJAX McPHERSON LTD

1980	Manufacturer of nuts, bolts, and screws	B D
1980	Same as 1980	B D

ALCAN NEW ZEALAND LTD

1980	Manufacturer of aluminium joinery, aluminium foil, aluminium fabrication, rolling mill products, extrusions, cast iron products	B F
1985	Same as 1980	B F

ALEX HARVEY INDUSTRIES LTD

1980	Manufacturer of glass, paper, fibre-glass, plastic products, metal containers, aluminium products, forestry, mineral exploration	C D
1985	Same as 1980	C D

ALLFLEX HOLDINGS LTD

1980	Animal identification tags Manufacturers of dairy equipment Equipment suppliers to vetinarians	C H
1985	As above. Added: Manufacture of: - automatic cluster removers - vacuum pump - animal containment systems	C H

ALLIANCE TEXTILES LTD

1980	Manufacturer of worsted and woollen clothes, carpets, blankets, machine yarn and wool-tops, garment manufacturing, wholesale of yarn, publishing of pattern books	B H
1985	Same as 1980	B H

A. M. BISLEY AND CO LTD

1980	Manufacturer of agricultural machinery, stock feed, irrigation systems, grain silo; well drilling, development of property, forestry, hire purchase finance, distributor of agricultural machinery	C F
1985	Same as 1980	C F

ANDAS GROUP LTD

1980	Distributor of typewriters, filing systems, duplicators, franking machines, office furniture, photo-copiers, other office supplies	A F
1985	As 1980 plus distributor of computers and supply of computer services. Exited distribution of stationery	A F

ALLFLEX HOLDINGS LTD

1980	Animal identification tags Manufacturers of dairy equipment Equipment suppliers to vetinarians	C H
1985	As above. Added: Manufacture of: - automatic cluster removers - vacuum pump - animal containment systems	C H

ANGUS GROUP LTD
(formerly: Scott Group Ltd)

1980	Cabinetmakers Joiners Wholesalers to cabinetmaking, caravan and boat building trades Decorative plywood and veneered particle board manufacturers General and heavy engineering Stainless steel manufacturers Roller door manufacturers Diecasters Electroplater Manufacture of picture mouldings Manufacture of concrete mixers	D H
1985	Exited: all of the above Added: Construction - commercial buildings Civil engineering Crane manufacture and servicing Crane hire	C H

APPAREL HOLDINGS LTD
(formerly: Manawatu Knitting Mills Ltd)

1980	Manufacturers of - mens knitted outerwear and underwear; ladies knitted outerwear; - rainwear and canvas goods (eg. tents)	B F
1985	As above Exited: - manufacture of rainwear and canvas goods Added: Manufacture of women's jeans and casual sportswear Interests in petroleum exploration licences	B H

ARNOLD AND WRIGHT LTD

1980	Manufacture and distribution of radio and electrical appliances	A F
1985	Same as 1980	A F

ARTHUR BARNETT LTD

1980	Department store operatiors	A F
1985	As above	A F
1990	As above	A F

ARTHUR ELLIS HOLDINGS LTD

1980	Manufacturer of sleeping bags, mattresses, upholstery, beddings, pillows, jackets	B F
1985	Same as 1980	B F

ASEA TOLLEY ELECTRIC COMPANY LTD
(formerly: Tolley Holdings Ltd)

1980 Cable makers — B H
Switchgear manufacture
Transformer manufacture
Agents
- resistance banks
- thermal power station equipment
- power transformers
- high voltage and special cables
- cable glands
- high voltage swithchgear
- glass insulators
- cam switches
- fuse switches
- submersible water supply
- sewage and irrigation pumps
- float switches
- crane power supply systems
- bore pumps
- capacitors
- ring main switchgear
- heavy duty alternators and motors
- electric hoists and cranes
- drives, crabs, magnets, steelwork equipment
- micro and limit switches
- motor control centres
- power factor correction controllers
- air circuit breakers
- industrial and heavy duty motors
- computer power supply regulators
- instrument transformers
- emergency lighting systems and equipment
- batteries and emergency standby power systems
- timers
- insulating tapes
- industrial plugs and sockets

- termination kits
- heat shrink products
- moulded cable terminators
- energy management and load control
- metering
- fusegear
- bulkhead fire stop systems
- tapes and protective films
- timers and programmers
- cable test equipment

- counters and printers
- toughened glass insulators
- vacuum contactors
- tapes
- information handling equipment and supervisory controls
- teleprinters and associated equipment
- communication systems
- microprocessors

1985 As above — A H
Added: Computer terminals
Exited: Cable makers

ASHBY BERG AND CO LTD

1980 Suppliers of building material, hardware, paints, roofing, wallpaper, electrical goods, roofing contractor, timber merchants — B F

1985 Same as 1980 — B F

ASSOCIATED BRITISH CABLES LTD

1980 Manufacturer of electric cables and general wiring products — A F

1985 Same as 1980 — A F

ATLAS CORPORATION LTD
(formerly: Atlas Majestic Industries Ltd)

1980 Manufacture of: — D H
- Stoves
- White goods
- Color televisions and sound equipment
- car radios
- motor mowers
- freezers, refrigerators, clothes washers
- metal work and machine tools for

	internal and external clients Poultry processing Markets a wide range of portable radios Distribution of shelf appliances Property investment and shares in listed companies Distribution of musical instruments and accessories, including sheet music Manufacturer and distributor of roofing tiles and wall cladding Services own and others products	
1985	Manufacturing of: - ovens, color televisions, audio products and VHF radios Distribution of: - imported whiteware - imported vidio and hi-fi equipment - telephone answering machines, paging equipment, security systems and portable data entry computers - video and medical equipment - imported musical instruments and sheet music - background music - telephone answering machines - dictating machines - calculators etc	B H

AUCKLAND GAS COMPANY LTD

1980	Manufacture and distribution of gases, detergents and disinfectants, manufacture of auto fuel systems	A F
1985	Same as 1980	A F

AURORA GROUP LTD

1980	Construction and renting of office buildings, car parking buildings, manufacture of concrete masonry, pumice blocks, motor vehicle dealer, sand quarrying	C F
1985	Same as 1980	C F

AUTOCRAT SANYO HOLDINGS LTD

1980	Manufacture of television and allied products, alarm systems, sound equipment, marine radio and telephones, calculators, cash registers, dictation machines, renting of TVs and radios, distribution of calculators and ship chandlery	B D
1985	Same as 1980	B D

BAILLIE FARMERS MOTORS LTD

1980	New and used motor vehicle dealers, garage service, spare parts distribution, vehicle financing	A D
1985	Same as 1980	A D

BRIERLEY INVESTMENTS LTD

1980	Manufacturers of school, office, hospital and commercial funiture, caravans. Electroplating Gold mining Manufacturers reps Typography, computerized photo typesetting, photo engraving, lithography and polymer plates, rubber steros, rubber stamps and photo prints Apple grower Joinery manufacturers "Gang nail" truss fabricators Coal transportation Auctioneers Home appliance retailers Pulp mills Clothing retailers Wine makers Trustee companies Life Assurance Co. Insurance Risk Management Manufacturers: - pre-fabricated buildings - reinforcing fabric for concrete - fencing staples - chain link netting - gates - screens - barbed wire	D H

- road trailers
- industrial pallets
- fencing
- bulk rail containers
- wirework
General retailers
Plumbers
Engineers, machine tools and
bearing merchants

1985 As above D H
Exited:
Gold mining
Coal transportation
Manufacture of:
- road trailers
- industrial pallets
- bulk rail containers
Added:
Manufacturer and importer of footwear
Department store operators
Meat processing
Booksellers and Stationers
Publishers
Printing, publishing and packaging
Winemakers
Sale of printing machinery, typesetting
systems, photolithographic materials and
equipment.
Manufacture of printing inks and press room chemicals
Supply of engineering hardware
Wine and spirit merchants
Video hire
Manufacture of grocery products
Property investment and development
Property Trusts
Arsenic acid manufacture
Agricultural chemical manufacuturer
Petroleum exploration and production
Flour miller
Stockfeed manufacture
Baker
Fish processing
Petfood manufacture
Stationery manufacturers, paper merchants
Paper and printing machinery merchants
Manufacture and importing of household,
educational and commercial stationery
Production of copying products eg. carbon
paper, ribbons, and computer oriented
supplies
Oil and gas exploration
Brewery operation
Manufacture of cider, soft drinks and
fruit juices
Wool growing
Beef cattle production
Processing of dairy produce, fish,

meat, groceries.
Flavoured milk
Malting
Sale of Mechanical handling equipment
Executors and trustees
Accounting and taxation services
Flour and stock feed manufacture
Ship-owners agents
Customs clearing forwarding agents
Transportation wholesale distribution
Yarn spinning for carpet and weaving industries
Clothing manufacturer
Hat manufacturer
Knitwear manufacturers
Manufacturers of beachwear
Manufacturers of blankets, rugs, woollen yarn, furnishing fabrics, woollen textiles
Automotive importing and retailing
Property development
New and used motor vehicle dealers
Department store operator
Nails & fasteners
Fencing, gates, docking pens, staples, fittings and other steel products
Automotive supplies
Oven trays, bread baskets, screens and containers
Furniture products of light tube and wood
holloware and kitchenware
aluminium and stainless steel kitchenware
brass fittings and engineering products
- grease guns and accessories
- oil cans
- drum pumps
- air dusters
- muffler clamps
shell moulded products
aluminium diecasting - barbacues,
aluminium wheels
strapping
screws, rivets, nuts, washers and
special alloy nails
contract diecasters
keyhole ties
Meat processing
Yarn processing; circular knitting;
warp knitting; dying and finishing;
printing
Private radio broadcasters
Vehicle conversion for alternative fuels
Supply of amonia and LPG
Natural gas distribution
Supply of appliances and engineering equipment to the gas industry
Distributor of gas and electric 251
appliances
Assembly of underfloor gas heaters

Distribution of:
- polyethylene electrofusion equipment
- electrolocation pipe and cable locators
- pressure gauges
- ball valves

Supplier of gaseous fuel automotive equipment
Mechanical installation for establishing public and private CNG refuelling stations
Projection screen manufacturers
Suppliers of:
- gas controls
- gas metres
- gas water heaters
- gas regulators
- gas valves
- industrial heaters
- pipeline leakage repair equipment
- commercial cooking equipment
- gas leakage detection equipment
- pipeline engineering products

Manufacturers and importers of gas heating equipment
Pipeline equipment
Timber merchants
Radio stations
House builders
Civil engineering contractors
Wholesalers of:
- outdoor sound equipment
- lighting
- electrical components
- transformers
- voltage stabilizers
- interference suppression devices
- petroleum pumps
- compressors
- amplifiers, record players, loudspeakers
- aquarium requisites
- sewage pumps
- test instruments
- dictating machines and tape recorders
- water turbines
- marine pumps
- soldering irons
- food mixers
- electric stoves
- wiring cables
- electric clocks
- chassis brushes
- tools and punches
- digital multimeters and precision oscilloscopes
- switch cleaning fluids
- precision wire
- wound and multi turn controls
- surgical operation lights
- capacitors

- cable
- control equipment
Aluminium joinery manufacturers
Hardware merchants
Wholesale of:
- thermostats, condensers
- catering equipment
- electric motors
- hair dryers
Commercial and industrial developers
Land developers and consultants
Manufacture of kit-set homes

1990 As above. D H
Added:
Hirers of contractors and industrial equipment
Manufacture of motor mowers, ride-on mowers, hand mowers, cultivators, castings pot belly stoves, woodfires, vacuum pumps, hedge trimmers, garden blowers, gas heaters and barbecues
Construction equipment materials handling
Importers and distributors of floor coverings
Manufacturers of milking machines, milk pumping equipment and components
Manufacturers of foam rubber products, carpet underlay and textile coatings
Manufacturers of casual sporting fashion and waterproof footwear
Manufacturers of plastic foam products: spa pool covers, trampers mats and bedrolls, body boards, inner soles
Radio news network
Video production
Indoor plant hire
Plant nursery operator
Restaurants
Cattle farming
Wild game trophy hunting reserve
Leasing and rental motor vehicles
Brewing & winemaking
Tourist hotels
Grocery distribution
Restaurants
Exited:
Apple grower
Life Assurance Co.
Insurance Risk Management
Manufacturer and importer of footwear
Department store operators
Publishers
Printing, publishing and packaging
Winemakers
Supply of engineering hardware

Video hire
Manufacture of grocery products
Property Trusts
Arsenic acid manufacture
Agricultural chemical manufacuturer
Petroleum exploration and production
Flour miller
Stockfeed manufacture
Baker
Fish processing
Petfood manufacture
Stationery manufacturers, paper merchants
Paper and printing machinery merchants
Manufacture and importing of household, educational and commercial stationery
Production of copying products eg. carbon paper, ribbons, and computer oriented supplies
Oil and gas exploration
Brewery operation
Wool growing
Beef cattle production
Processing of dairy produce, fish, meat, groceries.
Flavoured milk
Malting
Sale of Mechanical handling equipment
Executors and trustees
Accounting and taxation services
Flour and stock feed manufacture
Ship-owners agents
Customs clearing forwarding agents
Nails & fasteners
Fencing, gates, docking pens, staples, fittings and other steel products
Automotive supplies
Oven trays, bread baskets, screens and containers
Furniture products of light tube and wood
holloware and kitchenware
aluminium and stainless steel kitchenware
brass fittings and engineering products
- grease guns and accessories
- oil cans
- drum pumps
- air dusters
- muffler clamps
shell moulded products
aluminium diecasting - barbacues, aluminium wheels
strapping
screws, rivets, nuts, washers and special alloy nails
contract diecasters
keyhole ties
Meat processing
Yarn processing; circular knitting; warp knitting; dying and finishing;

printing
Vehicle conversion for alternative fuels
Projection screen manufacturers
Timber merchants
House builders
Wholesalers of:
- outdoor sound equipment
- lighting
- electrical components
- transformers
- voltage stabilizers
- interference suppression devices
- petroleum pumps
- compressors
- amplifiers, record players, loudspeakers
- aquarium requisites
- sewage pumps
- test instruments
- dictating machines and tape recorders
- water turbines
- marine pumps
- soldering irons
- food mixers
- electric stoves
- wiring cables
- electric clocks
- chassis brushes
- tools and punches
- digital multimeters and precision oscilloscopes
- switch cleaning fluids
- precision wire
- wound and multi turn controls
- surgical operation lights
- capacitors
- cable
- control equipment
Aluminium joinery manufacturers
Hardware merchants
Wholesale of:
- thermostats, condensers
- catering equipment
- electric motors
- hair dryers
Commercial and industrial developers
Land developers and consultants
Manufacture of kit-set homes
Typography, computerized photo typesetting, photo engraving, lithography and polymer plates, rubber steros, rubber stamps and photo prints
Manufacturers reps
"Gang nail" truss fabricators
Auctioneers
Life Assurance Co.
Insurance Risk Management
- pre-fabricated buildings

- fencing
Plumbers
General retailers
Pulp mills
Joinery manufacturers
Home appliance retailers
Manufacturers of school, office, hospital and commercial funiture, caravans.

BROADWAY INDUSTRIES LTD
(formerly: Brother Holdings Ltd)

1980	Distribution of business machines, sewing and knitting machines, and industrial knitting machines	B F
1985	Distribution of business machines, sewing and knitting machines, and industrial knitting machines	B D
1990	As above Added: Stainless steel fabrication (vats, shower bases, kitchen's for McDonalds, urinals) Distribution of animal health products Importing and distribution of photographic equipment Management of the NZ Rural Property Trust	D H

CABLE PRICE DOWNER LTD

1980	Manufacturer of electrical appliances, insulators, ceramic components, wiring devices, auto parts, ship building products. Civil, electrical, and mechanical engineers. Building construction. Wholesalers of electical and agricultural equipment. Cycle and automotive dealers. Quarrying.	D D
1985	Same as 1980	D D

CANTERBURY ROLLER FLOUR MILLS CO. LTD

1980	Flour millers, manufacturers of poultry mashes, meal, bran, pollard	A F
1985	As above	A F

1990	As above	A F

CAPITAL CITY RADIO LTD

1980	Operators of radio station	A F
1985	Same as 1980	A F

CARBORUNDUM ABRRASIVES LTD
(formerly: Carborundum New Zealand Ltd)

1985	Manufacture of coated and bonded abrasives Manufacture of ancillary abrasive products	A F
1990	As above Added: Property development	A F

CARDRONA GROUP LTD
(formerly: Cardrona Ski Area Ltd)

1985	Commercial ski area operator	A F
1990	Hotel owner Investor	A H

CARTER HOLT HOLDINGS LTD

1980	Builders and home handyman supplies Manufacture and distribution of Pharmaceuticals and cosmetics Pulp mills Fishing and fish processing Sheep and cattle farming Sawmillers Timber and builders merchants Manufacture of spices Soap manufacuters Joiners Pre-cut and pre-nailed frames Retailers Real estate agents LMVD Furniture removals and storage Road transport and freight service operators Logging contractors Coffee and tea importers Coffee roasters Food packers Coffee brewing equipment	D H

1985	As above. Exited: Manufacture of pharmaceutics Real estate agents Added: Marketing of diesel engines and CNG conversion equipment	D H
1990	As above. Exited: Sheep and cattle farming Manufacture of spices Manufacture of cosmetics Coffee and tea importers Coffee brewing equipment LMVD Furniture removals and storage Road transport and freight service operators Food packers Added: Producers of coversion packages for alternative fuelling of diesel engines Manufacture of horticultural packaging, food containers and trays: plastic manufacturers and thermoformers Manufacturers of disposable pulp and tissue products including toilet tissues, serviettes, kitchen towels, hand towels, disposable diapers and feminine products Manufacture of paper bags, gift wrap, lunch rolls, catering products, business machine rolls, industrial towels and wet wipes Manufacture of cultured marble vanity tops, basins, shower bases, shower and bath panels and spa baths, acrylic vanity tops and vanity cabinets Manufacture of fibreglass insulation, ceiling panels, noise control insulation, fibreglass reinforcements, foil insulation and building paper, concrete underlay, damp proof courses and laminated packaging Suppliers to the trade and consumer markets of glass, glazing, services and mirror Windscreen replacements, sunroofs and body glass Manufacturers and installers of steel and wood core access floor systems Manufacture of domestic and commercial roller doors Aluminium containers for carbonated beverages and beer Manufacture of office partitions, office	D H

furniture, acoustic panels, stainless steel sink units, industrial products and fittings, shower screens
Manufacture of roofing tiles and gutter systems
Flexible packaging activities involve printing on polypropylene, cellophane, paper and aluminium

CAVALIER CORPORATION LTD
(formerly: Cavalier Elco Ltd)

1985 Carpet manufacture — C H
Merchant woolscourers
Petroleum exploration
Manufacture of carpet stain remover

1990 As above

CERAMCO LTD

1980 Manufacture and distributor of bricks, ceramic pipes, refractory material, crockery, concrete pipes. Property development, mineral exploration. Crane and fork lift hire, manufacturer of abrasive products, field tiles, china clay. Abrasion installing. Distribution of builders' material — D D

1985 Same as above — D D

CHRISTCHURCH PRESS CO. LTD

1980 Publishing and printing of newspapers — A F
Commercial printers
Property leasing

1985 As above. — C F
Added:
Finance company

CITY REALTIES LTD

1980 Property mangement — B H
Property investment
Property development

Real estate agents

1985 As above

COLONIAL MOTOR CO. LTD

1980	Distributors of motor vehicles, industrial motors and spares Used car traders Engineers and motor body builders Service station & garage operation Car rental	C F
1985	As above Added: property investment and leasing	C F
1990	As above	C F

COMMAND SERVICES CORPORATION LTD

1980	Cleaning contractors, caterers, dry-cleaning, security services, telephone answering service, horticulturists and nurserymen, horticultural suppliers	C D
1985	As 1980 plus food preparation, house-keeping service, property maintenance	C D

CONSOLIDATED METAL INDUSTRIES LTD

1980	Manufacturer of: - steel wire nails, staples, clouts, panel fins, finishing brads both plain and galvanized, roofing nails - paper clips - cotter pins - aluminium and stainless steel cookware - silver plate and pewterware - brass pipe fittings and shaft collars - plumbers hardware - grease guns and accessories - pressure oil cans - drum pumps - air dusters - hydraulic presses - muffler and exhaust clamps - set and cap screws - engineers supplies - keyhole tie for wool bales - aluminium diecastings - alloy trailer wheels, drill stands and	D H

gem irons
- barbacues and outdoor furniture
- components and shell mouldings for engineering, plastic, electrical and refrigeration industries
- industrial coatings - epoxy, teflon, silicon, nylon
- hot dip galvanizing and jobbing work contract diecasters
- automotive supplies

1985 As above. D D
Exited:
Manufacture of industrial coatings
Manufacture of silver plate and pewterware

COOKS NEW ZEALAND WINE COMPANY LTD

1980 Manufacture of wine A F

1985 Same as 1980 A F

CORPORATE INVESTMENTS LTD

1985 Finance for motor vehicles, businesses, industrial plant, office equipment and home improvements C D
Property development
Motor vehicle dealers and franchise holders
General printers
Manufacturers of casual footwear
Contract hire of motor vehicles
Manufacturing and contracting for fibrous plaster sheets and products

1990 Added: D D
Winemaker
Wine importer
Wholesaler/retailer of both inbound and outbound travel products
Passenger and parcel transport
Coach and bus charter contractor
Motorhome rental
Hamilton city bus service contractor
Pine chip exporter
Heavy vehicle distributor
Parts and service for trucks
Horticultural processor and exporter
Manufacture and distribution of fashion eyewear and ophthalmic instruments
Salmon farmer
Seafood processor
Fallow deer farmer - venison, live sales, hides and by-products, consulting

Tin mining
Exited:
Manufacturing and contracting for fibrous plaster sheets and products
Motor vehicle dealers and franchise holders
Property development

CORY-WRIGHT AND SALMON LTD

1980	Manufacturer of transformers, switch-boards, compressors, meters, fuse catridges. Electrical and mechanial engineers. Distribution of electrical and engineering equipment. Aircraft suppliers, distribution of aluminium sheeting, tools, watermeters, electric motors	B F
1985	As 1980 plus manufacture of electric motors, starters, diesel generators, electric appliances, cutting tools	B D

CROWN CORPORATION LTD

1980	Stock and station agents, wine and spirit merchants, wool brokers, travel agents, motor vehicle dealers, real estate and insurance agents, agricultural machinery suppliers, grocers, well drillers, meat and fish processing; financial services.	D D
1985	As 1980 plus investment. Exited whole-saling of agricultural and construction machinery	D D

D.I.C STORES LTD

1980	Owners and operators of department stores	A F
1985	Same as 1980	A F

DINGWALL AND PAULGER LTD

1980	Wholesalers of: - groceries	B D

- tobacco
- hardware
- softgoods

1985 As above B D

DOMINION BREWERIES LTD

1980 Manufacture of spirits and wine, wine and spirits merchants, hoteliers B D

1985 As 1980. B D

DONAGHY'S LIMITED
(formerly: Donaghy's Industries Ltd)

1980 Cold stores D D
Manufacturers of:
- cargo slings and hoists
- truck and transport tie downs
- cordage, webbing and braids
- hessian and polyproprylne bags
- specialty foods
- seat belts

1985 As above
Added:
Manufacturer of: D D
- digital irrigation controls
- electric fence controllers
- woven geotextiles and materials handling products of woven polypropylene and polythylene including sacks, bags and bulk containers
- thermoformed plastic packaging for food products

1990 As above. D D
Exited:
Coldstores
Manufacture of:
- specialty foods
- seat belts
- thermoformed plastic packaging for food products

Added:
Manufacture of gear reduction boxes
Timber processing
Sale of building supplies and hardware
Manufacture of outdoor leisure products (tents and general canvas workers)
- industrial transmission equipment
- non-ferrous castings
- specialized machine tools and other machinery

EBOS GROUP LTD
(formerly: EBOS Dental and Surgical Supplies Ltd)

1980	Importers and distributors of dental, medical and surgical supplies and equipment	B D
1985	As above	B D
1990	As above	B D

EMCO GROUP LTD
(formerly: N.Z. Motor Corporation Ltd)

1980	Television rental Motor car assembly Used car traders Motor vehicle retailers Industrial and marine engines Coachbuilders Alternative fuel conversion Manufacture of shipping containers Parts and service Trucks Cranes Tractors and earth moving equipment Cars and commercial vehicles Motor body manufacture	D D
1985	As above Added: Personal computer rental Video recorder rental Tyre importers and distributors Cycle manufacture Paint manufacture Personal and household cleaning products Bus chassis Buses Exited: Coachbuilding Manufacture of shipping containers	D H

ENDEAVOUR SERVICES CORPORATION LTD

1980	Manufacturer of towels, absorbent terry shirts, industrial garments, footwear. Cleaning and laundry service, towel supply service, distribution of soaps and toiletries, garment rental, packaging of tea, distributor of vending machines	C D C D
1985	As 1980 plus manufacture of safety garments and windshield reflectors	C D

ERNEST ADAMS LTD

1980	Manufacturers and distributors of cakes, sponges, pastry, puddings, cookings and shortbread, slices, fruit mince	B F
1985	As above. Added: Manufacturing of: - icing	B F
1990	As above.	B F

FARMERS TRADING COMPANY LTD

1980	Deapartment stores; hire purchase finance	A F
1985	Same as 1980	A F

FELTEX NEW ZEALAND LTD

1980	Manufacturer of tyres, general rubber products, woven and tufted carpets, non-woven textiles, ropes and cords, plastic products, steel furniture, footwear. Wool scouring, exporting of carpets, retreading	D D
	of tyres, investments, sawmilling, nurseries, retail stores	D D
1985	Same as 1980	D D

FERNZ CORPORATION LTD
(formerly: New Zealand Farmers' Fertilizer Ltd)

1980	Manufacturers and distributors of fertilizers, sulphuric acid and chemicals Formulators and distributors of agricultural and horticltural chemicals and animal remedies Manufacturers of pharmaceutical products, cosmetics and cleaners Wholesalers of dental, medical, scientific products and chemicals	B D
1985	As above	B D
1990	As above. Added: Marketer and manufacturer of chemical spray equipment	B D

Exited:
Wholesaler of medical, scientific and dental products
Manufacturer of pharmaceutical products, cosmetics and cleaners

FIRESTONE NEW ZEALAND LTD

1980	Manufacturers of tyres and tubes; retreading; importers of tyres and other rubber products	A F
1985	As above	A F
1990	As above	A F

FISHER AND PAYKEL

1980	Production of wiring harnesses Rental of electrical goods Finance company Manufacturer and distributor of electrical appliances Cabinet and furniture manufacturer Importing of electrical goods and commercial equipment Electrical servicing Overlaying of wood-based products with wood and vinyl veneers Manufacture of industrial and professional electronic products	D H
1985	Added: Production of special purpose machinery and automated flexible manufacturing lines Exited: Production of wiring harnesses	D H
1990	Added: Manufacturer of mobility scooters Importing and marketing of home healthcare products Marketing of industrial products	D H

FLETCHER CHALLENGE LTD

1980	Rental of hire pools	D H
	Building society management	
	Manufacturers and wholesalers of camping, outdoor and equestrienne equipment	
	Manufacturers of lawnmowers, bicycles, cultivators and solar water heaters, exercycles	
	Importers of LPG cylinders and equipment	
	LMVD	
	Computer equipment distributors	
	Pulp and paper	
	Manufacture of concrete and concrete products	
	Manufacture of bright, annealed and galvanized wire	
	Property development	
	Commercial construction	
	Design and build contracting	
	Civil engineers	
	Roading	
	Air conditioning and environmental control	
	Residential building	
	Building materials merchandising	
	Property investment and management	
	Sawmills	
	Manufacture of particle boards, plywood and doors	
	Manufacture of roll-formed steel sections	
	Manufacture of corrugated steel culverts and pipes	
	Manufacture of building papers and foils	
	Wire mill	
	Manufacture of galvanized and bright wires of fencing and manufacturing industries	
	Agricultural and Forestry consultants	
	Livestock development planning	
	Fishing Fleet opertors & fish processing?	
	Wool scourers	
	Manufacture of particle board, bison board, plywood and doors	
	Manufacturer of newsprint, pulp and sawn timber	
	steels, structural steels, plate steels, corrugated iron, greenhouse amd farm buildings, building papers and foils, insulations materials	
	Manufacturers and suppliers of concrete, masonry, precast concrete products, paving, paint, chemicals	
	steel, melt extraction steel fibres,	
	Manufacturers of fabricated reinforcing metal fasteners, stainless and bright	

Distributors of LPG
Building and civil engineering contractors
Wool brokers
Engineering products marketing - air compressors and other air control equipment, dairy factory machinery, control panels, effluent treatment plant, generators, farm machinery, grain storage and handling equipment, measuring instruments, irrigation pumps, emergency lighting equipment, machine tools, metal working machinery, numerical control equipment, packaging machinery, process control equipment, pumps and pumping equipment,seperators, stainless steel fittings, systems design
Stock and station agents
Merchant bankers
Financiers
Personal loans
Mortgage management
American Express agents
Insurance Agents
Real Estate Agents and Auctioneers
Property development
Computer service bureau
Property, real estate and shopping centre development consultants and project managers
Builders supply and timber merchants, sawmillers and timber processors
Harware stores

1985 As above D H
Exited:
Rental of hire pools
Building society management
Manufacturers and wholesalers of camping, outdoor and equestrienne equipment
Manufacturers of lawnmowers, bicycles, cultivators and solar water heaters, exercycles
Added:
Bloodstock
Export of fresh, frozen and canned foodstuffs
Appliance retailing
Motor vehicle rental
Motor vehicle leasing
Shipping company
Insurance
Mechanical engineering

1990	As above Added: Urea manufacture Manufacture of chemical methanol, amonia and urea Marine engineering construction Textile importers Transport serving the building industry Exited: Bloodstock Export of fresh, frozen and canned foodstuffs Importers of LPG cylinders and equipment Computer equipment distributors LMVD Appliance retailing Vehicle rental Motor vehicle leasing Insurance Merchant bankers Mortgage management American Express agents Mechanical engineering Computer service bureau	D D

FOVEAUX RADIO LTD

1985	Radio broadcasters	A F
1990	As above	A F

GENERAL PROPERTIES LTD

1980	Property investment	A F
1985	As above	A F

GOLDEN BAY CEMENT COMPANY LTD

1980	Manufacture and shipping of cement fishing, forestry, berry cropping	C F
1985	Same as 1980	C F

GOODMAN GROUP LTD

1980	Bakery products, flour millers, yeast manufacture, yarn processing,	B D

distribution of beverage and slaughtering equipment.

1985 As 1980 plus cereal food manufacture B D

GROCORP PACIFIC LTD

1985 Fruitgrowers A H

1990 As above A H

GROSVENOR PROPERTIES LTD

1980 Property investment A F

1985 As above A F

HENRY BERRY LTD

1980 Wholesale and retail grocers, suppliers of office equipment and machines, fruit and vegetable canners, distribution of electrical equipment, manufacture of industrial cleaners and air cleaner equipment C H

1985 As 1980 plus laundry service, manufacture of uniforms, fashion clothes, commercial kitchen equipment C H

ICI NEW ZEALAND LTD

1980 Manufacturer of agricultural chemicals, animal vaccines, pharmaceutical products, resin, dyestuffs, chemicals, explosives, plastic pipes, footwear, clothing, wall-papers, slide fasteners, non-ferrous metals paints, synthetic yarn. Mineral exploration. D D

1985 Same as 1980 D D

IVON WATKINS-DOW LTD

1980 Manufacturer of agricultural chemicals, pesticides, fertilisers, stock remedies, surfactants, industrial chemicals, insulation B F

material, spray equipment, plastic packing material

1985 Same as 1980 plus manufacture of timber preserving chemicals — B F

HALLENSTEIN GLASSON HOLDINGS LTD

1980 Retailers of men's and boys clothing, footwear and women's apparel
Clothing manufacture — A F

1985 As above — A F

1990 As above — A F

HAURAKI ENTERPRISES LTD
(formerly: Radio Hauraki N.Z. Ltd)

1980 Private radio broadcasters — A F

1985 As above — A F

HUME INDUSTRIES (N.Z.) LTD

1980 Manufacturer of concrete tanks, reserviors and other pre-cast concrete products
General and structural engineering — A F

1985 As above — D D
Added:
Manufacturer of:
- plastic pipes, containers, hose etc
- polyethelene pipes
- plastic cosmetic tubes
- spiral welded steel pipes and fabricated steel products
- earthenware pipes and fittings
- polythene coating applications
- shrink sleeves and tape

Sale of welding equipment

HUTTON'S N.Z. LTD
(formerly: Gear Meat Co. Ltd)

1980 Wholesale butchers
Retail butchers
Rendering plant operation
Property investment — C H

	Farming[1]	
1985	Exited all of the above. Added: Meat processing	A H

INDEPENDENT BROADCASTING LTD

1980	Private radio broadcasters	A F
1985	As above	A F

INDEPENDENT NEWSPAPERS LTD

1980	Newspaper printers and publishers Commercial printers Stationers Television commercials Closed circuit television Film production	A D
1985	As above Exited: Television commercials Closed circuit television Film production Added: Radio broadcasting Carrying company	C D
1990	As above Added: Travel agents Investments Exited: Radio broadcasting	C D

JAMES HARDIE IMPEY

1980	Paint manufacturer Paint, glass and wallpaper merchants	A D
1985	As above. Added: Paint, glass and wallpaper merchants Manufacturer of paints and stains Wholesaling of furnishing fabrics and wallcoverings Manufacturer of envelopes Merchandising of paper and commercial stationery	D D

Glass merchants and contractors
Retailer of home decorative products
Distribution of building supplies
Manufacture and distribution of domestic and electrical switchgear and accessories
Manufacturer of adhesives, fillers, wall preparations and car products
Manufacture of fibre cement building products including weather boards and panel boards
Manufacture of pressure, sewer, stormwater and drain pipes
Manufacture and distribution of PVC plumbing fittings, pipes, bathroom products, acrylic spa pools and baths
Importing and merchandising of chemicals and raw materials for paint and plastic industries, textile machinery and accessories, commercial laundry and dry cleaning equipment

JAMES SMITH LTD

1980	Operators of departmental stores	A F
1985	Same as 1980	A F

JOHN BURNS & CO. LTD

1980	Manufacture of decorative, functional building products - wooden roofing tiles - wall panelling - partitions - flooring Manufacture of steel and non-ferrous metal products	D F
	Manufacture of: - kitchens - commercial kitchen equipment - transmission equipment - load lift units - fork lift components - bulldozer components - dump-truck trays - commercial dishwashers - meat saws - commercial potato peelers Wholesaler of: - marine hardware and supplies - builders hardware, tools, plumbers and engineers supplies - photographic supplies	D H

- home care supplies
- outboard motors
Rigging for marine and forestry trades
Ships chandler
Ships providor

1985 As above D D
Added:
Manufacture of water beds
Sale and service of food equipment used in commercial kitchens, hotels, hospitals, cafeterias, and retail outlets eg. butcheries, cake kitchens and bakeries, glasswashers
Mechanical servicing contractors
Exited:
Manufacture of decorative, functional building products
Manufacture of:
- load lift units
- fork lift components
- bulldozer components
- dump-truck trays
- commercial dishwashers
- meat saws
- commercial potato peelers
Wholesaler of:
- marine hardware and supplies
- builders hardware, tools, plumbers and engineers supplies
- photographic supplies
- home care supplies
- outboard motors
Rigging for marine and forestry trades
Ships chandler
Ships providor

JOHN EDMONDS HOLDINGS LTD

1980 Manufacture of wood joinery. Retailing of hardware and sports goods A F

1985 Same as 1980 A F

JOHN WEBSTER & CO.

1980 Manufacture of shirts, ties, socks, belts, trousers and knitwears, topcoats, pyjamas, jackets, handkerchiefs B F

1985 As above B F

KINGSGATE INTERNATIONAL CORPORATION LTD
(formerly: Vacation Hotels Ltd)

1980	Tourist hotel owners and operators	A H
1985	As above Added: Property investment Hotel management	A H
1990	As above Added: Owner of properties including a shopping centre and marina	C H

LANE'S INDUSTRIES LTD

1980	Manufacture of knitted fabrics and elastics Commission transfer printers	A H
1985	As above	A D

LANE WALKER RUDKIN INDUSTRIES LTD

1980	Manufacture of yarn, lingerie, knitwear, sportswear, pantyhose, hosiery goods, mens' and womens' underwear, manufacture of textile fabric and outerwear	B D
1985	Same as 1980	B D

L D NATHAN AND CO LTD

1980	Manufacture of food stuffs, beer and soft drinks. Retailing of grocery and fancy goods. Spirits and wine merchants. Hotel owners, travelling and shipping agents, tea and coffee production	C D C D
1985	Same as 1980 <u>plus</u> financing, investment, property development; <u>exited</u> hotels	C D

LEYLAND INVESTMENT CO LTD

1980	Investment	A F

1985	Same as 1980	A F

LION BREWERIES LTD

1980	Restaurants Hotel owner and operator Wholesale wine and spirit merchants and distributors Specialized suppliers and consultants to the catering industry Recycling bottles Grain and seed merchants Barley malters Brewers Soft-drink manufacturers	D D
1985	As above Added: Caterers Wine producer Spirit bottlers Exited: Recycling bottles Grain and seed merchants Soft-drink manufacturers Specialized suppliers and consultants to the catering industry	D D

LUSTEROID HOLDINGS (NZ) LTD

1980	Manufacture and distribution of paints, spray guns, sand papers	A F
1985	Same as 1980	A F

MAGNUM CORPORATION LTD
(formerly: Rothmans Industries Ltd)

1980	Manufacturer of tobacco products Selling agents of tobacco products and smokers requisites Winemaker Grocery retailing Property investment and development Farming Manufacture of umbrellas and tents Manufacturers of electronic motor controllers Laminator and gravure printers Computer management, data processing	D D

	and systems consultancy Manufacturers agents NZ inkmakers Liquor distributor	
1985	As above Exited: Farming Manufacture of umbrellas and tents Manufacturers of electronic motor controllers Manufacturers agents NZ inkmakers Liquor distributor Added: Photolithography Confectionary distributor Wholesalers: - groceries - housewares - electrical appliances Liquor retailing Fruit juice producer	D D
1990	As above Added: Brewing Tourist hotels Exited: Photolithography Confectionary distributor Manufacturer of tobacco products Selling agents of tobacco products and smokers requisites Computer management, data processing and systems consultancy	D D

MAIR ASTLEY HOLDINGS LTD

1980	Ventilating and heating manufacturer Wool scouring Wool exporters Exporters of foodstuffs Automotive glass Architectual glass Mosaic glass - industrial felts and cloth Food processing machinery - fibreglass rovings Importers of: - industrial chemicals - agricultural chemicals - food processing chemicals Industrial machinery Exporters of leather	D H
1985	As above Added: Game processors and exporters	D H

Tanners
Fellmongerers
Wool yarn spinners
Merchandising of:
- hides, skins, tallow, meat and bonemeal
Arable and horticultural crops
Exited:
Exporters of foodstuffs
Exporters of leather

1990 As above — D H
Added:
Fish processing and exporting
Bulk liquids storage
Exited:
Automotive glass
Architectual glass
Mosaic glass
- industrial felts and cloth
- food processing machinery
- fibreglass rovings

McALPINE INDUSTRIES LTD

1980 Manufacture of deep freezers, fridges, milk farm chillers, glass washers. Air conditioning engineers. Repairs and servicing of machines, manufacture of ice-making equipment — B D

1985 Same as 1980 plus manufacture of dishwashers and washing machines — B D

McKECHNIE BROTHERS (N.Z.) LTD

1980 Manufacturers of: — A F
- aluminium and brass extrusions
- copper tube
- aluminium ingots
- continuously and centrifigally cast bronze products
- machined brushes for industrial use

1985 As above — C F
Added:
Manufacture of:
- compressed air fittings
- gauges

MILBURN NEW ZEALAND LTD
(formerly New Zealand Cement Holdings Ltd)

1980	Manufacturer of: - cement - agricultural lime - burnt lime	A F
1985	As above Added: Quarrying - stone and aggregate	A F
1990	As above Added: Manufacture of concrete paving and masonary products Ready mixed concrete	A D

MANTHEL HOLDINGS LTD

1980	Dealers of motor cars and boats	A F
1985	Same as 1980	A F

M O'BRIEN AND CO LTD

1980	Manufacture of works and sports wear	A F
1985	Same as 1980	A F

MONTANA WINES LTD

1980	Wine making. Vineyard owners. Wholesaling and retailing of wine	B F
1985	Same as 1980	B F

MORRISON-PIM (HOLDINGS) LTD

1980	Manufacture of printing and duplicating ink, oil and water-based ink. Distribution of printing machinery, typesetting and photo-mechanical equipment, manufacture of offset printing ink; importing of graphic art supplies and photo-composition equipment	B D
1985	Same as 1980	B D

MOTOR HOLDINGS LTD

1980	Manufacture of auto parts, car bodies, fire extinguishers. Assembly of cars. Franchise holders of cars. Dealers in motor cycles and cars. Wholesaling of tractors and earthmoving equipment. Hire purchase financing	D D
1985	Same as 1980	D D

MOUNT COOK GROUP LTD

1980	Airline Skiplanes Coach tours Tour operator Freight - land Ski-field operation Helicopters Agricultural aviation Catamaran cruises Rental car	D D
1985	As above Added: Motorhomes Exited: Rental cars	D D
1990	As above Exited: Catamaran cruises Agricultural aviation Motorhomes Added: Aircraft maintenance	D D

NEIL HOLDINGS LTD

1980	Timber merchants Joinery manufacturers "Gang nail" truss fabricators House builders Real estate agents Civil engineering contractors Wholesalers of: - outdoor sound equipment - lighting - electrical components - transformers - voltage stabilizers - interference suppression devices - petroleum pumps - compressors	D H

- amplifiers, record players, loudspeakers
- aquarium requisites
- sewage pumps
- test instruments
- dictating machines and tape recorders
- water turbines
- marine pumps
- soldering irons
- food mixers
- electric stoves
- wiring cables
- electric clocks
- chassis brushes
- tools and punches
- digital multimeters and precision oscilloscopes
- switch cleaning fluids
- precision wire
- wound and multi turn controls
- surgical operation lights
- capacitors
- cable
- control equipment

Manufacturers of:
- heavy duty transformers
- switchgear
- and ranges

Commercial cooking and heating manufacturing
Aluminium joinery manufacturers
Hardware merchants
Wholesale of:
- thermostats, condensers
- catering equipment
- electric motors
- hair dryers

1985 Added: D H
Commercial and industrial developers
Land developers and consultants
Manufacture of kit-set homes
Exited:
Manufacture of:
- ranges
- commercial cooking equipment
- heaters

Real estate agents
Manufacturers of heavy duty transformers and switchgear

NEWMAN'S GROUP LTD
(Formerly: TNL Group Ltd)

1980 Freight cartage and forwarding D H
Storage
Bulk lime and super spreading

Railway operators
Customs and shipping agents
Passenger and travel services
Coach tours
Rental car operators
Civil engineers
Cattle stud, sheep and cattle farming
Formulation and marketing of chemicals for farming and horticultural purposes
Manufacture of vibratory and pollution control equipment
Manufacturer of stock remedies
Mineral extraction, processing and marketing
Manufacturers of agricultural machinery
LMVD
Subdividers
Ready mix concrete
Yacht charter
Travel agents
Hire of motor caravans
Horticulturalists; kiwifruit orchardists
Export agents
Gold mining
Manufacturers of chemical pumps and synthetic and nylon bearing materials

1985 Added:
Airline operator — D H
Exited: Cattle stud, sheep and cattle farming
Manufacture of agricultural machinery
Manufacture of vibratory and pollution control equipment
Subdividing
Civil engineering
Railway operators

NEW ZEALAND FOREST PRODUCTS LTD

1980 Builders supplies and hardware — D D
Sawmiller
Pulp and paper mills
Land subdivision
Plywood and timber mills
Manufacturers of foil containers
Paper bags
Paper importing
Insurance
Blow-in type insulation
Iron and steel merchants
Cardboard manufacture
Manufacture of vinyl sheet materials, PVC extrusions and mouldings, gutter rainwear, spouting and downpipes
Shipping, travel and custom agents

	Manufacture of joinery and other building components Manufacture of rainwear, taupaulins and other canvas goods Housing construction Box makers Pre-cut houses Swimming pools Garden furniture Launch and lighter services Fishing trips	
1985	As above Added: Manufacturers of automobile trim components Manufacturers of greeting cards, gift wrap, stationery and playing cards Marine engineers and gearboxes Sale of construction machinery Motor vehicle importing and retailing including tractors Container handling and storage Investments Home appliance merchants Pallet manufacturers Farm building suppliers Exited: Swimming pools Blow-in type insulation Iron and steel merchants	D D

NEW ZEALAND LIGHT LEATHERS LTD

1980	Tanners	A F
1985	As above	A F
1990	As above	A F

N.Z. NEWS

1980	Newspaper printing and publishing Commercial printing Magazine publishers Production of TV commercials and films Publishers of business directories and maps Video producers and distributors	C F
1985	As above. Added: Mail order	C D

NEW ZEALAND REFINING CO. LTD

1980	Oil refiners	A F
1985	As above	A F
1990	As above	A F

NEW ZEALAND SALMON CO. LTD

1985	Salmon farming Mussel farming and processing	A D
1990	As above Added: Processing of salmon Raising ova and King Salmon smolt for sale Manufacture of feed products for own use and for sale Farming and processing of tomatoes for sale as aseptic or frozen tomatoe paste Farming and sale of fresh market tomatoes Processing sweet corn, kiwifruit and apples Manufacture of fibre drums and drum-making machinery	C D

NORMEDIA CORPORATION LTD
(formerly: Northland FM Radio Ltd)

1985	Radio broadcasting	A F
1990	As above	A H

NUHAKA FARM FORESTRY FUND

1980	Farm forestry	A H
1985	As above	A H
1990	As above	A H

NUPLEX INDUSTRIES LTD
(formerly: Revertex Industries N.Z. Ltd)

1980	Premixed plasters Floor covering contractors Manufacturers of synthetic resin emulsions - acrylic emulsions - alkyd resins - PVA emulsions - polyester resins	D D

Water emulsified epoxies
Sprayed finishes
Plastic spray coatings
Chemicals and fertilizers

Seamless flooring
Exterior weatherproof coating
Archetectual coatings and rubber
latex compounds

1985 As above D D
Added:
Manufacture of industrial chemicals
Exited:
Fertilizers

1990 As above D D
Added:
Distributor of:
- floor coverings
- floor insulation materials
- vinyl tiles and sheet, cork, parquet, adhesives and levelling compounds and flooring installation materials

Exited:
Floor covering contractors
Manufacture of industrial chemicals

NZ INDUSTRIAL GASES LTD

1980 Manufacture of industrial gases, medical gases, welding equipment, medical equipment electric welding machines. Suppliers of medical equipment and welding equipment D D

1985 Same as 1980 D D

NZ STEEL LTD

1980 Manufacture of steel sheets, billets, pipes, tin plates, rectangular hollow section, rolling mill products, coiled strips, structural sheet. Galvanising sheet B F

1985 Same as 1980 B F

OHL CORPORATION LTD
(formerly: Optical Holdings Ltd)

1980	Importers and wholesalers of ophthalmic optical products including spectacle frames, lenses and cases, contact lens solutions and accessories, sight testing and laboratory equipment Wholesalers of fashion sunglasses and accessories Manufacturers and exporters of spectacle frames and sunglasses	B H
1985	As above Added: wholesaling of sunscreen and depalatory cream	B D

OPIO FORESTRY FUND

1985	Farm forestry Leases a farm block	A H
1990	As above	A H

OTAGO PRESS AND PRODUCE LTD

1980	Daily and community newspapers General printers Fruit and produce mart Builders supplies and hardware merchants Real estate agents Poultry dealers Egg pulp manufacture Egg distributors Fruit and produce auctioneers Fruit and produce wholesalers	D H
1985	Added: Exporting of horticultural products, fish and seafoods Poultry processing Exited: Egg pulp manufacture	D H

PACER KERRIDGE CORPORATION LTD
(formerly: Pacer Pacific Corporation Ltd; National Bloodstock Corporatid)

1985	Horse breeding Racehorse synicates Publishing	C H
1990	As above. Exited: Publishing Added:	

	Cinemas	C H
	Leasing - photographic equipment	
	Property rental	
	Hotel owner	
	Finance	

PARAPINE
(formerly: Genestock)

1985	Cattle grazing facilities	B H
	Sale of embryos/animal improvement services	
	Dairy farm operation	
	Livestock sale - beef	
1990	Timber processing	A H
	Timber and Hardware merchants	

PDL HOLDINGS LTD

1980	Manufacturers of:	D H
	- electrical accessoriers eg. switches, sockets etc	
	- industrial switch gear	
	- kitchen step stools	
	- plastic tableware	
	- picnic sets	
	- garden watering devices	
	- toys	
	- electrical appliances	
	Custom injection moulders	
	Toolmakers	
	Blowmoulders and extruders	
1985	As above	D H
	Added:	
	Manufacturers of:	
	- process control systems	
	- can openers	
	Exited:	
	Manufacture of:	
	- plastic tableware	
	- picnic sets	
1990	As above	D H
	Added:	
	Manufacturers:	
	- metal turned parts and pressings	
	- electric motor speed systems for industrial use	
	- air movement products	
	Importer of industrial electrical products	
	Exited:	
	- kitchen step stools	

- toys
- can openers
- garden watering devices
- process control systems

PROGRESSIVE ENTERPRISES LTD

1980	Supermarket operators. Property developers. Manufacturers of delicatessen, fast food and family restaurant	B D
1985	Same as 1980	B D

RADIO AVON LTD

1980	Operators of radio station	A F
1985	Same as 1980	A F

RADIO OTAGO LTD

1980	Private radio broadcasters	A F
1985	As above	A F
1990	As above Added: Calender advertising	A F

RADIO PACIFIC LTD

1985	Radio station	A F
1990	As above	A F

REGINA CONFECTIONS LTD

1980	Manufacturers of chocolates and confectionary	A F
1985	As above Added: Manufacture of health and breakfast foods	B F

R & W HELLABY LTD

1980	Meat processing	A F

1985	As above	A D

ROBT. JONES INVESTMENTS LTD

1985	Property investment	A
1990	As above	A

R W SAUNDERS LTD

1980	Manufacture of apparel and lingerie horticulture	C F
1985	Same as 1980	C F

SANFORD LTD

1980	Wholesale and retail fish merchants Manufacturers of fish meal and fertilizers Cool store operators Fish processing Ice manufacturers Owns and operates own fishing fleet Poultry merchants Marine engineers Ship, yacht, boat builders and designers Ship repair Manufacturing of fish oil	C F
1985	Exited: Poultry merchants Manufacturers of fish meal and fertilizers Entered: mussel farming, harvesting and processing	C F
1990	As above	C F

REID FARMERS LTD

1980	Wool brokers Rural financing Grain, seed and produce merchants Seed dressers Real estate agents Stud stock Insurance agents Stock and station agents General merchants Retailers Sale of farm machinery Wine and spirit merchants	D D

1985	As above Exited: Wine and spirit merchants Added: Valuers Fertilizer	D D
1990	As above Added: Wool scouring and dumping	D D

SMITHS CITY MARKET

1980	Retailer of DIY products Finance company General goods auctioneers Furniture and appliance stores Real estate agents Medical furniture manufacture	D H
1985	As above. Added: Video libraries Exited: Medical furniture manufacture	D H
1990	As above.	D H

STEEL AND TUBE HOLDINGS LTD

1980	Steel, tube and steel product merchants Reinforcing contractors Steel cutting, bending and profiling services Indent and commission agents Plumbing and electrical merchants, building service engineers and manufacturers Electric motor manufacturers Nail, staple, fencing and concrete reinforcing mesh manufacturers Wire product manufacturers Steel grating manufacturers and galvanizers Industrial fastening systems merchants Refrigeration and automotive tubing manufacturers Mechanical engineers and contractors Steel product fabricators and engineers Propety owners and lessors Specialist engineers for oil and gas industry	D D

1985	As above Added: Investments Suppliers of technical equipment, plant and process systems engineers Instrumentation and process control engineers Industrial machinery	D D
1990	As above Added: Marketers, project managers and manufacturers of exclusive technical products and engineered systems to primary processing and secondary industry Manufacture of: Special purpose machinery Pressure vessels Tanks - mild steel, stainless steel Carcass freezers Heat exchangers Meat industry conveyors Evaporating plants Combustion engine boiler parts Project management Plant hire Boilermakers Agencies: whiting, harvey distribution of motor vehicles Wholesaling of timber and other building materials Exited: Refrigeration and automotive tubing manufacturers Propety owners and lessors Electric motor manufacturers Investments	D D

SALMOND INDUSTRIES LTD

1980	Manufacture of cosmetics, pharmaceuticals, brushes, toiletry, food products, animal foods, wholesale of surgical equipment and photographic goods. Retail of pharmaceuticals	C D
1985	Same as 1980	C D

THE SELBY SHOE CO LTD

1980	Manufacture of womens' shoes	A F
1985	Same as 1980	A F

SKELLERUP INDUSTRIES LTD

1980	Manufacture of PVC flooring, rubber and canvas footwear, industrial garments, transmission belts, carpet cushion, water-proof clothing, moulded rubber goods, dipped rubber goods, plastic products. Wholesaling and retailing of rubber goods	C D
1985	Same as 1980 plus computer services, swimming pool construction, salt-making. Manufacture of dairy equipment and medical equipment	C D

SMITH-BIOLAB LTD

1980	Manufacture of pharmaceaticals, laboratory diagnostic material, cosmetics, scientific equipment, plastic packaging. Suppliers of scientific equipment	B D
1985	Same as 1980	B D

SOUTHLAND FROZEN MEAT LTD

1980	Processing and exporting of meat. Pelt and garment manufacturing and tanners. Frozen freight haulage	B H
1985	Same as 1980	B H

TAG CORPORATION LTD
(formerly: Spedding Consolidated Ltd)

1980	Wholesalers of: - electrical appliances and accessories - hardware - gift lines - leisure products - CNG and LPG fuel systems	D H

- ceilings and partitions insulation
- educational products
- bathroom scales
- baby cups
- marine motors
- jigsaws
- gas cookers
- kitchen rollers
- power tools
- digital clocks
- cassette tapes
- carpet sweepers
- kitchenware
- radios and cassettes
- digital watches
- wallpaper
- car vehicle ramps

Manufacturers of
- electric appliances
- aluminium boats
- waste disposal units
- other sheet-metal products
- cooking oils
- detergents, disinfectants
- cordials
- petfood
- John West canned foods

Contract packagers

1985 As above D H

Added:
Distributors of food and related products
Financial services
Insurance broking
Property investment
Agent for Tongan Government
Rental of commercial buildings

Exited:
Wholesalers of:
- gift lines
- leisure products
- bathroom scales
- baby cups
- marine motors
- jigsaws
- gas cookers
- kitchen rollers
- power tools
- digital clocks
- cassette tapes
- carpet sweepers
- kitchenware
- radios and cassettes
- digital watches
- wallpaper
- car vehicle ramps

Manufacturers of
- electric appliances

- aluminium boats
- waste disposal units
- other sheet-metal products
- cooking oils
- detergents, disinfectants
- cordials
- petfood
- John West canned foods

Contract packagers

1990 As above D H
Added:
Rental of apartment buildings
Importation, manfacture and distribution of lighting products and electrical switchgear
Manufacture of sheet metal products
Exited:
Distributors of food and related products
- electrical appliances and accessories
- hardware

TAYLORS GROUP LTD
(Formerly: Taylors Drycleaning And Laundry Services Ltd)

1980 Dry cleaning and laundry service A D
Garment rental
Linen hire

1985 As above A D

1990 As above A D
Added:
Dyeing and custom finishing for the garment industry
Stockists of uniforms and work apparel

TRANS ASHBURTON LTD

1980 Goods and haulage operators, lime crushing A F

1985 Same as 1980 plus lime crushing A F

TRANSMARK CORPORATION LTD
(formerly: Moyes and Groves Industries Ltd)

1985 Manufacture of industrial valving B H
Suppliers of valves, electronic flow measurement and control systems
General merchandising - supplies consumable engineering goods,

hacksaw blades, drills, nuts and bolts, abrasives, pipe fittings and hand tools
Supplies engineering workshops with items such as specialist lathes and milling equipment; supplies specialist equipment to the pulp and paper industries

1990 As above D H
Added:
Casting foundry specializing in stainless and cast steel products
Importers and distributors of:
- calculators
- electronic cash registers
- watches and clocks
- electronic musical instruments
- hi-fi and home stereo, car audio, televisions, VCRs, microwave ovens, home appliances, audio equipment, audio and video tapes, floppy disks

TRIUMPH INDUSTRIES LTD
(formerly: Consolidated Enterprises Ltd)

1985 Importer, distributor and retailer of computer equipment and associated peripherals A H
Software data base operation

1990 Manufacturer of water cylinders, fuel kits, stainless steel products and other sheetmetal products A H

TRANSPORT (NORTH CANTERBURY) LTD

1980 Goods, logs, and stock haulage contractors A D

1985 Same as 1980 A D

UEB INDUSTRIES LTD

1980 Manufacture of tufted carpets, paperboard packaging, paper bags, fibre and coorugated containers, building paper, waxed paper, wall paper and pulp. Wool scouring and spinning, sheep farming, manufacture of furniture and stock feed. Hotels. Data processing. D D

1985	Same as 1980 exited hotels and stock feed manufacture	D D

VENTURE PACIFIC LTD
(formerly: New Zealand Venture Capital Corporation Ltd; Pacific Venture Capital Ltd)

1985	Venture capital investors	A H
1990	As above	A H

WAIKATO STUD LTD

1985	Thoroughbred horse breeding	A F
1990	As above	A F

WAITAKI NZ REFRIGERATION LTD

1980	Processing and exporting of meat, pelts, hides, casings, tallows, deer essence. Tanners, printers, motel owners, retail butchers. Manufacturing of knitwears and concrete masonry, pig farming and manufacture of pharmaceutical raw material	D H
1985	Same as 1980	D H

WASTE MANAGEMENT N.Z. LTD

1980	Manufacturers of: - fire extinguishers, carbon dioxide and dry ice plants - pneumatic products	B H
1985	As above. Added: Waste collection and disposal services Haulage	C D
1990	Exited all of the above except: Sanitary and garbage disposal services	A D

WATTIE INDUSTRIES LTD

1980	Manufacture of prepared food, breakfast food, ice cream, poultry and stock feed, cake, baby food. Processing of meat and fish, can making, horticulture, grocery	D D

distribution, refrigerated haulage,
flour milling and fish
meal manufacture

1985 Same as 1980 D D

WELGAS HOLDINGS LTD
(formerly: Wellington Gas Co. Ltd)

1980 Distribution of gas C H
Projection screen manufacturers
Manufacturers and importers of gas
heating equipment
Heating engineers
Sale of
- industrial and commercial gas equipment
- bottled gas and cylinders
- gas appliances
- gas central heating systems
- gas controls
- gas cookers
- gas heaters
- gas metres
- gas regulators
- industrial heaters
- domestic heaters
- cooking equipment
- commercial cooking equipment
- catering equipment
- gas water heaters
- gas central heating systems
- gas controls
- gas metres
- gas regulators

Sale of LPG appliances for the leisure
craft and caravan markets

1985 As above C H
Added:
Supplier of gaseous fuel automotive
equipment
Mechanical installation for establishing
public and private CNG refuelling stations
Investments

WILKINS AND DAVIES CONSTRUCTION LTD

1980 Civil and electrical engineers, building B F
construction and quarry masters, construction of habours
and power houses

1985 Same as 1980 B D

WILLIAMSON JEFFREY LTD

1980	Manufacture of stationery products, printing machines and plastic products. Wholesaler of stationery products	C F
1985	Same as 1980	C D

WILSON & HORTON LTD

1980	Newspaper publishers and printers Commercial printers Printing of stationery Printing of greeting cards Booksellers	A D
1985	As above Added: Television and video recording studios Manufacture of plastic bank cards Stationery merchandising	C D
1990	As above Added: Direct marketing Printers of magazines, travel brochures, books, and mail order catalogues Computer software and systems for newspapers and general printers Exited: Television and video recording studios	C D

WILSON NEILL LTD

1980	Exporters of seafood and venison Exporters of opossum skins Exporters of horticultural products Hotels Taverns Retailers of: - appliances - musical instruments Liquor retailers Fish processing Financiers	D D
1985	As above Exited: Retailing of musical instruments Exporters of horticultural products Financiers	D D

1990	As above Exited: Exporters of seafood, venison and opposum skins Home appliance retailers Liquor retailing Hotels Taverns Added: Brewing Wine and spirits Fruit juice manufacture Tanners Property investment and development	D D

WINSTONE LTD

1980	Manufacture of brick, roofing tiles, concrete blocks, refractory material, PVC pipes and sheeting, glass, ready mix concrete. Suppliers of building and road material. Flooring and roofing contractors, civil construction, quarry masters	C H
1985	Same as 1980 plus manufacture of wood pulp and plywood. Forestry, saw milling, and plumbing supplies	C H

WORMALD INTERNATIONAL NZ LTD

1980	Manufacture of industrial safety equipment, fire protection system, protective clothing, burglar alarm system, electronic aids for handicaps. Builders' supplies, structural steel and pipe, transmission conveyors. Suppliers of medical equipment	D D
1985	Same as 1980 plus manufacture of fire engines, pressed metal and industrial doors	D D

XS CORPORATION LTD
(formerly: Manawatu Radio Company Ltd)

1985	Private radio broadcasters	A F
1990	As above	A F

YATES CORORATION LTD

1980	Manufacture of home garden products	D H

Grower of seeds
Manufacture of stock feed
Processing of chickens, hens and turkeys
Blueberries
Mining and processing of sphaghnum
peat moss
Manufacture of fertilizer
Real estate
Insurance consultants
Manufacturers of egg pulp and dried egg
products
Marketing of eggs
Distributors of:
- edible oils
- dried food and nuts
- canned salmon
- canned pineapple
- air sterilizers
- spices
- herbs
- hog casings
- smallgoods cooking and smoking equipment
- salt
- machinery
and merchandise to farmers
Fruit and produce mart
Seed cleaning
Grain drying

1985 As above D H
Added:
Manufacture of pet food
Citris fruit grower
Kiwifruit grower
Manufactuerer of electric fence
energizers and accessories
Irrigation
Pop-up sprinkler systems
Exited:
Real estate
Insurance consultants
Distributors of:
- edible oils
- dried food and nuts
- canned salmon
- canned pineapple
- air sterilizers
- spices
- herbs
- hog casings
- smallgoods cooking and smoking equipment
- salt
- machinery
and merchandise to farmers
Fruit and produce mart
Seed cleaning
Grain drying

Appendix 3

STRATEGY, PERFORMANCE AND CONTROL VARIABLES, 1985-90

COMPANY	A	B	C	D	ROA	ROE	G_SALES	SIZE	LEV
Arthur Barnett	1	0	0	0	5.92	0.24	41.16	10.43	0.48
Cant. Roller Flour	1	0	0	0	16.93	15.60	-5.48	7.73	0.37
Firestone	1	0	0	0	10.99	8.37	1.06	10.93	0.26
NZ Refining	1	0	0	0	1.37	10.56	20.25	14.44	0.92
NZ Light Leathers	1	0	0	0	15.21	15.29	0.89	9.78	0.51
Taylor's	1	0	0	0	12.10	9.84	18.08	9.74	0.56
Cardrona	1	0	0	0	10.34	7.40	-3.17	9.40	0.30
Foveaux	1	0	0	0	25.94	14.72	11.29	6.56	0.35
GeneralProperties	1	0	0	0	1.91	-10.77	54.28	11.03	0.47
Hallensteins	1	0	0	0	12.99	10.51	13.28	11.07	0.49
Milburn	1	0	0	0	12.58	9.73	10.09	11.83	0.45
Normedia	1	0	0	0	-3.54	-17.35	123.85	7.75	0.79
Nuhaka	1	0	0	0	-0.11	-0.11	47.96	8.93	0.01
Opio	1	0	0	0	0.32	0.21	-7.36	7.19	0.01
Radio Otago	1	0	0	0	18.05	22.53	34.30	8.54	0.51
Radio Pacific	1	0	0	0	37.54	35.82	16.23	7.86	0.40
RJI	1	0	0	0	4.98	3.16	127.31	13.60	0.41
Triumph	1	0	0	0	-10.28	-215.65	-3.56	8.21	0.48
Venture Pacific	1	0	0	0	-14.04	-34.21	147.09	9.78	0.25
Waikato Stud	1	0	0	0	-2.96	-42.10	14.67	9.70	0.45
XS	1	0	0	0	4.18	3.61	25.05	7.59	0.99
Carborundum	1	0	0	0	7.19	-21.96	0.63	9.40	0.47
Grocorp	1	0	0	0	-5.12	-9.74	329.17	9.67	0.30
Ernest Adams	0	1	0	0	20.12	14.65	14.33	9.44	0.26
EBOS	0	1	0	0	11.50	5.74	18.70	9.32	0.59
FERNZ	0	1	0	0	12.59	11.42	6.51	12.48	0.61
Colonial Motor	0	0	1	0	12.61	10.28	2.40	11.39	0.43
Independent Newspapers	0	0	1	0	15.51	13.05	23.59	12.25	0.43
Sanford	0	0	1	0	26.32	21.73	16.89	11.08	0.45
Wilson & Horton	0	0	1	0	23.68	16.92	25.87	12.07	0.41
Cavalier	0	0	1	0	12.38	13.26	10.58	11.50	0.57
Pacer Kerridge	0	0	1	0	-1.08	-35.28	103.56	11.65	0.71
Brierley Investments	0	0	0	1	9.98	15.46	33.87	15.92	0.80
Carter Holt Harvey	0	0	0	1	12.38	18.87	35.62	14.43	0.60
Donaghy's	0	0	0	1	13.25	10.07	16.30	11.21	0.44
Fisher & Paykel	0	0	0	1	17.28	12.87	7.63	12.68	0.40
Magnum	0	0	0	1	13.32	11.42	20.55	13.46	0.34
Mair Astley	0	0	0	1	10.01	10.73	10.72	12.13	0.68
Mount Cook	0	0	0	1	9.23	8.05	10.73	11.31	0.45
Nuplex	0	0	0	1	12.24	12.48	7.01	10.49	0.41
PDL	0	0	0	1	10.05	7.99	30.54	11.77	0.71
Reid	0	0	0	1	15.79	11.99	9.06	10.49	0.59
Steel & Tube	0	0	0	1	8.80	5.17	8.58	12.57	0.49
TAG	0	0	0	1	11.06	10.08	32.63	10.36	0.63
Wilson Neill	0	0	0	1	18.63	26.73	214.08	12.47	0.59
Fletcher Challenge	0	0	0	1	10.17	17.23	26.39	16.10	0.65
Smiths City	0	0	0	1	8.82	4.88	29.55	11.77	0.62

Appendix 4

DIVESTMENT DIARIES

ABACUS			
Ownership	*Directors*	*Management*	*Divestments*
In September 1981 the joint major shareholders sell their holding to the Managing Director. By January 1982 the Managing Director has 30.9% of issued capital.	3 directors, previously the joint major shareholders, retire (September 1981). New Chairman elected.	In September 1982 the incumbent Managing Director retires. He is succeeded by an executive who is seconded from the company of the new major shareholder.	Nov 1982 to July 1983 December 1982
In March 1982 a new major shareholder emerges with 18.6% of issued capital.	Two representatives of the new major shareholder appointed (May 1982) June 1982: One director resigns November 1982: One director appointed	No change	August 1984
In September 1983 a new major shareholder emerges when the previous major shareholder sells their 26% holding to the Managing Director and associated parties	March 1983: One director resigns Two new directors appointed in March and May 1984. March 1984: One director retires		

ANGUS			
Ownership	*Directors*	*Management*	*Divestments*
Company taken over. The new major shareholder holds 51% of issued capital (June 1983).	Two directors representing new major shareholder appointed. Two directors, one of whom was an executive director, retire (September 1983) Two directors who were, prior to the takeover, the joint major shareholders retire (October 1983)	No change in CEO	July 1983 November 1983 March 1984 April 1984 (September 1983)

ATLAS			
Ownership	*Directors*	*Management*	*Divestments*
Between Jan 1980 and Feb 1981 two individuals jointly become the new major shareholder increasing their holding from 3.2% to an estimated 30%. Previous major shareholder was an insurance company with no board representation	CEO resigns from board (April 1980) Two directors resign (Dec 1980) Two new major shareholders appointed to board. Two more directors resign. Board size is now 3 (August 1981)	CEO replaced by a Management Board consisting of the Chairman and the two individuals who jointly become the new major shareholder (April 1980)	May to Sept 1980 June 1981 Sept 1980 - Aug 1981
HUTTON'S			
Ownership	*Directors*	*Management*	*Divestments*
Two companies jointly acquire 40% of equity (June 1977). Restrictive voting provisions mean that there is no dominant shareholder; shareholders are permitted one vote for every 10 shares held, up to a maximum of 250 votes. Restrictive voting provision on shares removed (August 1979). By January 1980 joint major shareholders have voting rights proportional to the 44.3% of equity they now hold.	Four directors appointed. Two directors resign (1977-78) New Chairman appointed (Feb 1978). Outgoing Chairman resigns. Four directors resign (1978-80) General manager of one of the joint major shareholders is appointed to board (Dec. 1980) Two more directors appointed (1981-82)	New CEO (1978) New CEO (1979) In Nov. 1980 one of the joint major shareholders assumes management control	July 1980 August 1980 April 1981 April 1982 1981 to 1982 balance dates

TOLLEY			
Ownership	*Directors*	*Management*	*Divestments*
Major shareholder sells 45.1% holding to another company (July 1984)	4 directors, representatives of the outgoing major shareholder, resign (July 1984)	Not relevant; holding company with no CEO.	September 1984

PARAPINE			
Ownership	*Directors*	*Management*	*Divestments*
Major shareholder sells 19.7% holding to another company (March 1986)			May 1987, August 1987 to August 1988, June 1986 to August 1987
WASTE MANAGEMENT			
Ownership	*Directors*	*Management*	*Divestments*
3 individuals jointly acquire 50% of issued shares (March 1985) In May 1986 the joint major shareholders sell 24.9% of issued capital to a company which in November 1986 becomes the major shareholder when it acquires an additional 15% of issued capital, making them the largest shareholder. (November 1986) The aforementioned company increases their holding to 54% (Jan 1987)	By August 1985 all three joint major shareholders are appointed to the board. Chairman retires and is replaced (1985) Chairman retires and is replaced (Feb 1986) Two directors of other major shareholder appointed to board (June 1986)	In 1985 one of the joint major shareholders becomes M.D.	January 1987 Between August 1985 and August 1986

Appendix 5.1

SAMPLES OF FAILED AND NON-FAILED COMPANIES

FAILURES (16 COMPANIES)[*]	*SURVIVORS (31 COMPANIES)*
ASTEC (-1.82)	Arthur Barnett
Andas Group Ltd (-3.00)	Brierley Investments Ltd
Angus (-2.04)	Brother Industries
Autocrat Sanyo Holdings (N.Z.) Ltd (-12.94)	Carter Holt Harvey
Baillie Farmers Motors Ltd (-0.19)	Canterbury Roller Flour
Cook's New Zealand Wine Co. Ltd (-1.10)	Colonial Motor
DIC Stores Ltd (0.13)	Donaghy's
ICI New Zealand Ltd (-0.21)	Ernest Adams
John Edmonds Holdings Ltd (-0.18)	EBOS
Leyland Investment Co. Ltd (-66.60)	Fisher and Paykel
M. O'Brien and Co. Ltd (-0.40)	Fletcher Challenge Ltd
Montana Wines Ltd (-0.36)	FERNZ
RW Saunders Ltd (-1.19)	Firestone
Southland Frozen Meat Ltd (-0.42)	Hallensteins
Selby Shoe Co. Ltd (0.14)	Independent Newspapers
Waitaki N.Z.R. Ltd (-0.67)	Kingsgate
	Magnum
	Mair Astley
	Milburn
	New Zealand Light Leathers
	New Zealand Refining
	Nuplex Industries
	PDL
	Reid Farmers
	Steel and Tube
	Sanford
	Smiths City
	TAG
	Wilson and Horton
	Wilson Neill
	Waste Management

[*] Z-scores are in brackets. Following Addison and Hamilton (1988) a Z-score of 0.15 or less signifies distress.

Appendix 5.2

CORPORATE FAILURE DATA

Note:

Variable	*Explanation*
FAIL	Whether or not the company failed during 1985-90
SIZE	Firm size
IC	Industrial concentration
LEV	Leverage
A	Very low diversity
B	Related diversified
C	Unrelated diversified
D	Very high diversity
F	Functional structure
H	Holding company structure
D	Divisional strategy
FIT	Strategy-structure fit
OWN	Percentage of issued voting capital held by major shareholder
N	Board size
N_OUT	Number of outsiders on board
P_OUT	Proportion of outsiders on board
MAJ	Majority of board are outsiders
DUAL	CEO Duality
EC	Executive chairperson
I1	CEO duality-number of outsiders interaction
I2	CEO duality-proportion of outsiders interaction
I3	Executive chairperson-number of outsiders interaction
I4	Executive chairperson-proportion of outsiders interaction
PROT	Industry protection

COMPANY	FAIL	SIZE	IC	LEV	A	B	C	D	F	H	D	FIT	OWN
ASTEC	1	10.82	0.1122	0.58	1	0	0	0	0	1	0	0	51.0
Andas	1	10.60	0.1071	0.68	1	0	0	0	1	0	0	1	38.8
Angus	1	9.75	0.1071	0.50	0	0	1	0	0	1	0	1	50.0
Autocrat	1	10.62	0.1122	0.60	0	1	0	0	0	0	1	1	50.3
Baillie	1	9.13	0.1098	0.42	1	0	0	0	0	0	1	0	54.6
Cook's	1	10.37	0.2550	0.52	1	0	0	0	1	0	0	1	60.5
DIC	1	10.73	0.1098	0.59	1	0	0	0	1	0	0	1	55.0
ICI	1	12.16	0.1631	0.46	0	0	0	1	0	0	1	1	75.0
J. Edmonds	1	10.00	0.1071	0.43	1	0	0	0	1	0	0	1	19.9
Leyland	1	9.41	0.5083	0.05	1	0	0	0	1	0	0	1	35.6
M O'Brien	1	9.09	0.1666	0.52	1	0	0	0	1	0	0	1	53.7
Montana	1	10.98	0.2550	0.35	0	1	0	0	1	0	0	0	43.8
RW Saunders	1	8.91	0.1666	0.28	0	0	1	0	1	0	0	0	20.0
SFM	1	12.15	0.2550	0.47	0	1	0	0	0	1	0	0	50.1
Selby	1	8.50	0.1666	0.27	1	0	0	0	1	0	0	1	19.7
Waitaki	1	12.97	0.2550	0.49	0	0	0	1	0	1	0	0	39.8
A.Barnett	0	9.90	0.1098	0.35	1	0	0	0	1	0	0	1	5.1
BIL	0	14.84	0.5083	0.79	0	0	0	1	0	1	0	0	5.8
Brother	0	8.57	0.1071	0.52	0	1	0	0	0	0	1	1	28.9
CHH	0	13.27	0.1893	0.56	0	0	0	1	0	1	0	0	23.5
CRF	0	7.32	0.2550	0.42	1	0	0	0	1	0	0	1	7.1
Col. Motor	0	11.28	0.1098	0.45	0	0	1	0	1	0	0	0	27.0
Donaghy's	0	10.88	0.1666	0.42	0	0	0	1	0	0	1	1	24.2
E. Adams	0	8.87	0.2550	0.38	0	1	0	0	1	0	0	0	26.7
EBOS	0	8.74	0.1071	0.40	0	1	0	0	0	0	1	1	23.4
F&P	0	12.25	0.1122	0.45	0	0	0	1	0	1	0	0	26.5
FCL	0	15.15	0.1071	0.59	0	0	0	1	0	1	0	0	13.8
FERNZ	0	12.36	0.1631	0.54	0	1	0	0	0	0	1	1	21.1
Firestone	0	10.87	0.1631	0.40	1	0	0	0	1	0	0	1	83.3
HB	0	11.10	0.1098	0.35	1	0	0	0	1	0	0	1	13.7
INL	0	11.33	0.3451	0.43	0	0	1	0	0	0	1	1	21.2
Kingsgate	0	11.60	0.1349	0.53	1	0	0	0	0	1	0	0	91.8
Magnum	0	12.28	0.2550	0.45	0	0	0	1	0	0	1	1	16.2
Mair	0	11.65	0.1071	0.76	0	0	0	1	0	1	0	0	9.8
Milburn	0	11.39	0.3364	0.40	1	0	0	0	1	0	0	1	42.1
NZLL	0	9.79	0.1666	0.81	1	0	0	0	1	0	0	1	50.0
NZ Refin	0	14.41	0.1631	0.76	1	0	0	0	1	0	0	1	23.7
Nuplex	0	10.28	0.1631	0.51	0	0	0	1	0	0	1	1	65.0
PDL	0	11.10	0.1122	0.55	0	0	0	1	0	1	0	0	60.7
Reid	0	10.31	0.1071	0.59	0	0	0	1	0	0	1	1	27.7
S&T	0	12.05	0.1122	0.45	0	0	0	1	0	0	1	1	24.7
Sanford	0	10.77	0.2550	0.49	0	0	1	0	1	0	0	0	17.6
Smiths City	0	10.84	0.1098	0.65	0	0	0	1	0	1	0	0	16.4
TAG	0	8.37	0.1071	0.57	0	0	0	1	0	1	0	0	60.4
W. Horton	0	11.62	0.3451	0.35	0	0	1	0	0	0	1	1	13.9
W. Neill	0	10.49	0.1098	0.56	0	0	0	1	0	0	1	1	32.3
W. Mngt	0	9.32	0.1122	0.38	0	0	1	0	0	0	1	1	71.2

COMPANY	N	N_OUT	P_OUT	MAJ	DUAL	EC	I1	I2	I3	I4	PROT
ASTEC	7	6	0.86	1	0	0	6	0.86	6	0.86	28
Andas	7	6	0.86	1	0	0	6	0.86	6	0.86	0
Angus	9	8	0.89	1	0	0	8	0.89	8	0.89	0
Autocrat	9	5	0.56	1	0	0	5	0.56	5	0.56	28
Baillie	6	5	0.83	1	0	0	5	0.83	5	0.83	0
Cook's	6	5	0.83	1	0	0	5	0.83	5	0.83	28
DIC	7	7	1.00	1	0	0	7	1.00	7	1.00	0
ICI	6	4	0.67	1	0	0	4	0.67	4	0.67	8
J. Edmonds	6	4	0.67	1	0	0	4	0.67	4	0.67	0
Leyland	4	3	0.75	1	1	1	6	1.50	6	1.50	0
M O'Brien	5	5	1.00	1	0	0	5	1.00	5	1.00	104
Montana	10	8	0.80	1	0	0	8	0.80	8	0.80	28
RW Saunders	7	6	0.86	1	0	0	6	0.86	6	0.86	104
SFM	12	11	0.92	1	0	0	11	0.92	11	0.92	7
Selby	6	5	0.83	1	0	0	5	0.83	5	0.83	104
Waitaki	10	7	0.70	1	0	0	7	0.70	7	0.70	7
A.Barnett	8	4	0.50	0	0	0	4	0.50	4	0.50	0
BIL	8	1	0.13	0	0	1	1	0.13	2	0.25	0
Brother	6	5	0.83	1	0	0	5	0.83	5	0.83	0
CHH	8	6	0.75	1	0	1	6	0.75	12	1.50	14
CRF	4	4	1.00	1	0	0	4	1.00	4	1.00	7
Col. Motor	9	5	0.56	1	0	0	5	0.56	5	0.56	0
Donaghy's	7	6	0.86	1	0	0	6	0.86	6	0.86	38
E. Adams	6	3	0.50	0	1	1	6	1.00	6	1.00	7
EBOS	8	5	0.63	1	0	0	5	0.63	5	0.63	0
F&P	9	5	0.56	1	0	0	5	0.56	5	0.56	28
FCL	14	6	0.43	0	1	1	12	0.86	12	0.86	0
FERNZ	10	9	0.90	1	0	0	9	0.90	9	0.90	8
Firestone	7	4	0.57	1	1	1	8	1.14	8	1.14	22
HB	8	4	0.50	0	0	0	4	0.50	4	0.50	0
INL	9	6	0.67	1	0	0	6	0.67	6	0.67	11
Kingsgate	7	5	0.71	1	1	1	10	1.43	10	1.43	0
Magnum	7	6	0.86	1	0	0	6	0.86	6	0.86	28
Mair	10	5	0.50	0	0	0	5	0.50	5	0.50	0
Milburn	9	8	0.89	1	0	0	8	0.89	8	0.89	12
NZLL	10	10	1.00	1	0	0	10	1.00	10	1.00	38
NZ Refin	11	11	1.00	1	0	0	11	1.00	11	1.00	22
Nuplex	10	9	0.90	1	0	0	9	0.90	9	0.90	8
PDL	6	2	0.33	0	0	1	2	0.33	4	0.67	28
Reid	11	9	0.82	1	0	0	9	0.82	9	0.82	0
S&T	9	6	0.67	1	0	0	6	0.67	6	0.67	28
Sanford	7	5	0.71	1	0	0	5	0.71	5	0.71	7
Smiths City	5	1	0.20	0	0	0	1	0.20	1	0.20	0
TAG	5	5	1.00	1	0	0	5	1.00	5	1.00	0
W. Horton	10	5	0.50	0	0	0	5	0.50	5	0.50	11
W. Neill	7	4	0.57	1	0	0	4	0.57	4	0.57	0
W. Mngt	8	5	0.63	1	0	0	5	0.63	5	0.63	0

Appendix 6.1

BOARD STRUCTURE DATA, 1980

Key:

N	Board size
N_OUT	Number of outsiders
%_OUT	Percentage of outsiders
M_OUT	Majority of outsiders
Dual	CEO duality
EC	Executive chairperson

COMPANY	*N*	*N_OUT*	*P_OUT*	*M_OUT*	*DUAL*	*EC*
Arnold & Wright	6	2	33.33	0	1	1
Arthur Barnett	7	3	42.86	0	0	0
Ashby Bergh	6	6	100.00	1	0	0
Arthur Ellis	7	4	57.14	1	0	0
ABACUS	7	6	85.71	1	0	0
Associated British Cables	8	7	87.50	1	0	0
Allex Harvey Inds	9	8	88.89	1	0	0
AM Bisley & Co.	6	3	50.00	0	0	1
ASTEC	7	6	85.71	1	0	0
Ajax	7	4	57.14	1	0	0
Auckland Gas	7	5	71.43	1	0	0
Alcan	5	4	80.00	1	0	0
Allflex	8	5	62.50	1	1	1
Alliance	9	8	88.89	1	0	0
Andas	6	5	83.33	1	0	0
Angus	5	4	80.00	1	1	1
Apparel	5	3	60.00	1	0	0
Atlas	5	4	80.00	1	0	1
Auroa	6	4	66.67	1	1	1
Autocrat	4	3	75.00	1	1	1
Brierley Investments	7	2	28.57	0	1	1
Baillie	7	5	71.43	1	0	0
Broadway	6	4	66.67	1	0	0
Cory-Wright Salmon	7	5	71.43	1	0	0
City Realties	5	5	100.00	1	0	0
Carter Holt Harvey	7	4	57.14	1	0	0
Consolidated Metal	6	6	100.00	1	0	0
Cable Price Downer	10	7	70.00	1	1	1
Canterbury Roller Flour	4	4	100.00	1	0	0
Capital City Radio	8	7	87.50	1	0	0
Ceramco	11	5	45.45	0	0	0
Christchurch Press	7	7	100.00	1	0	0
Colonial Motor	9	6	66.67	1	0	0
Command	9	7	77.78	1	0	0
Cook's	8	7	87.50	1	0	0

Crown	9	8	88.89	1	1	1
Dingwall and Paulger	6	2	33.33	0	0	0
Dominion Breweries	8	6	75.00	1	1	1
DIC	6	5	83.33	1	0	0
Donaghy's	7	6	85.71	1	0	0
Ernest Adams	5	2	40.00	0	1	1
EBOS	6	4	66.67	1	0	0
EMCO	8	6	75.00	1	0	0
Endeavour	6	5	83.33	1	0	0
Fisher and Paykel	9	5	55.56	1	0	0
Fletcher Challenge	11	6	54.55	1	0	0
FERNZ	11	10	90.91	1	0	0
Farmers Trading Co.	8	8	100.00	1	0	0
Feltex	7	6	85.71	1	0	0
Firestone	6	2	33.33	0	1	1
Golden Bay Cement	9	8	88.89	1	0	0
Goodman	7	3	42.86	0	1	1
Grosvenor	5	5	100.00	1	0	0
Henry Berry	6	5	83.33	1	0	0
HB	8	3	37.50	0	0	0
Hauraki	7	5	71.43	1	0	0
Hume	7	6	85.71	1	0	0
Hutton's	5	5	100.00	1	0	0
Independent Broadcasting	5	5	100.00	1	0	0
ICI	8	5	62.50	1	1	1
Independent Newspapers Ltd	8	7	87.50	1	0	0
Ivon Watkins Dow	10	9	90.00	1	0	0
John Burns & Co.	8	7	87.50	1	0	0
John Edmonds	6	4	66.67	1	0	0
James Smith	8	6	75.00	1	1	1
John Webster & Co.	7	4	57.14	1	1	1
James Hardie Impey	6	4	66.67	1	1	1
Kingsgate	8	7	87.50	1	0	0
LD Nathan	10	9	90.00	1	0	0
Lane Walker Rudkin	8	5	62.50	1	0	0
Lane's	6	5	83.33	1	0	0
Leyland	5	4	80.00	1	1	1
Lion	9	8	88.89	1	0	0
Lusteroid	5	5	100.00	1	0	0
M O'Brien	5	5	100.00	1	0	0
Morrison PIM	5	4	80.00	1	0	0
Magnum	9	8	88.89	1	0	0
Mair Astley	6	4	66.67	1	0	0
Manthel	4	1	25.00	0	1	1
McAlpine	5	5	100.00	1	0	0
McKechnie	6	5	83.33	1	0	0
Milburn	9	8	88.89	1	0	0
Montana	11	9	81.82	1	0	0
Motor Holdings	8	6	75.00	1	0	0
Mount Cook	10	9	90.00	1	0	0
NZ News	11	8	72.73	1	0	0
NZ Refining	11	11	100.00	1	0	0
NZ Steel	7	6	85.71	1	0	0
NZ Forest Products	12	9	75.00	1	0	0
NZ Industrial Gases	8	5	62.50	1	0	0
NZ Light Leathers	10	10	100.00	1	0	0
Neil	5	4	80.00	1	0	0
Newman's	11	9	81.82	1	0	0
Nuhaka	6	6	100.00	1	0	0
Nuplex	8	6	75.00	1	1	1
Optical Holdings Ltd	6	4	66.67	1	0	0
Otago Press & Produce	8	6	75.00	1	0	0
PDL	4	2	50.00	0	1	1

Progressive	8	3	37.50	0	0	0
Radio Avon	5	4	80.00	1	0	0
Radio Otago	4	3	75.00	1	0	0
RW Hellaby	7	6	85.71	1	0	0
RW Saunders	5	4	80.00	1	0	0
Regina	5	3	60.00	1	0	0
Reid	10	8	80.00	1	0	0
Steel and Tube	9	8	88.89	1	0	0
Soutland Frozen Meat	11	10	90.91	1	0	0
Salmond	7	5	71.43	1	1	1
Sanford	8	6	75.00	1	0	0
Selby	5	4	80.00	1	0	0
Skellerup	7	0	0.00	0	0	1
Smith-Biolab	6	5	83.33	1	0	0
Smiths City	6	4	66.67	1	1	1
Trans Ashburton	5	5	100.00	1	0	0
TAG	7	6	85.71	1	0	0
Transport North Canterbury	8	7	87.50	1	0	0
Taylor's	6	4	66.67	1	1	1
UEB	8	4	50.00	0	0	0
Wilkins & Davies	7	5	71.43	1	0	0
Wilson & Horton	9	6	66.67	1	0	0
Wilson Neill	6	3	50.00	0	0	0
Waste Mngt	5	4	80.00	1	0	0
Waitaki	9	7	77.78	1	0	0
Wattie	11	9	81.82	1	0	0
Welgas	7	6	85.71	1	0	0
Wiljeff	8	7	87.50	1	0	0
Winstone	10	8	80.00	1	0	0
Wormald	5	4	80.00	1	0	0
Yates	10	5	50.00	0	0	0

Appendix 6.2

BOARD STRUCTURE DATA, 1985

COMPANY	*N*	*N_OUT*	*P_OUT*	*M_OUT*	*DUAL*	*EC*
Arnold & Wright	8	4	50.00	0	1	1
Arthur Barnett	8	4	50.00	0	0	0
Ashby Bergh	7	6	85.71	1	0	0
Arthur Ellis	8	6	75.00	1	0	0
ABACUS	7	5	71.43	1	0	0
Assocate British Cables	9	7	77.78	1	0	0
Alex Harvey Industries	10	9	90.00	1	0	0
AM Bisley	8	5	62.50	1	0	0
ASTEC	7	6	85.71	1	0	0
Ajax	5	5	100.00	1	0	0
Auckland Gas	8	7	87.50	1	0	0
Alcan	7	6	85.71	1	0	0
Allflex	8	7	87.50	1	1	1
Alliance	10	8	80.00	1	0	0
Andas	7	6	85.71	1	0	0
Angus	9	8	88.89	1	0	0
Apparel	9	3	33.33	0	1	1
Atlas	5	4	80.00	1	0	0
Auroa	6	5	83.33	1	0	0
Autocrat	9	5	55.56	1	0	0
Brierley Investments	8	1	12.50	0	0	1
Baillie	6	5	83.33	1	0	0
Broadway	6	5	83.33	1	0	0
Cory-Wright & Salmon	8	5	62.50	1	0	0
City Realties	6	5	83.33	1	0	0
Carter Holt Harvey	8	6	75.00	1	0	1
Corporate Investments Ltd	5	2	40.00	0	1	1
Consolidated Metal Inds	8	7	87.50	1	0	0
Cable Price Downer	10	9	90.00	1	1	1
Canterbury Roller Flour	4	4	100.00	1	0	0
Capital City Radio	7	6	85.71	1	0	0
Carborundum	6	3	50.00	0	0	0
Cardrona	6	5	83.33	1	0	0
Cavalier	10	5	50.00	0	0	0
Ceramco	11	6	54.55	1	0	0
Christchurch Press	8	8	100.00	1	0	0
Colonial Motor	9	5	55.56	1	0	0
Command	10	7	70.00	1	0	0
Cook's	6	5	83.33	1	0	0
Crown	14	10	71.43	1	0	0
Dingwall & Paulger	6	3	50.00	0	0	0
Dominion Breweries	8	7	87.50	1	0	0
DIC	7	7	100.00	1	0	0
Donaghy's	7	6	85.71	1	0	0
Ernest Adams	6	3	50.00	0	1	1
EBOS	8	5	62.50	1	0	0
EMCO	9	8	88.89	1	0	0
Endeavour	6	4	66.67	1	0	0
Fisher and Paykel	9	5	55.56	1	0	0
Fletcher Challenge	14	6	42.86	0	1	1
FERNZ	10	9	90.00	1	0	0
Farmers Trading Co.	7	7	100.00	1	0	0
Feltex	7	6	85.71	1	0	0
Firestone	7	4	57.14	1	1	1
Foveaux	5	5	100.00	1	0	0
Golden Bay Cement	8	6	75.00	1	0	0

General Properties	7	6	85.71	1	0	0
Goodman	11	7	63.64	1	0	0
Grocorp	8	6	75.00	1	1	1
Grosvenor	4	4	100.00	1	0	0
Henry Berry	8	5	62.50	1	0	0
Hallensteins	8	4	50.00	0	0	0
Hauraki	6	5	83.33	1	0	0
Hume	8	7	87.50	1	0	0
Hutton's	7	6	85.71	1	0	0
Independent Broadcasting	5	4	80.00	1	0	0
ICI	6	4	66.67	1	0	0
Independent Newspapers	9	6	66.67	1	0	0
Ivon Watkins Dow	8	7	87.50	1	0	0
John Burns & Co.	5	4	80.00	1	1	1
John Edmonds	6	4	66.67	1	0	0
James Smith	8	6	75.00	1	0	0
John Webster & Co.	7	5	71.43	1	0	0
James Hardie Impey	12	9	75.00	1	0	0
Kingsgate	7	5	71.43	1	1	1
LD Nathan	10	8	80.00	1	0	0
Lane Walker Rudkin	7	4	57.14	1	0	0
Lane's	6	5	83.33	1	0	0
Leyland	4	3	75.00	1	1	1
Lion	7	6	85.71	1	0	0
Lusteroid	5	4	80.00	1	0	0
M O'Brien	5	5	100.00	1	0	0
Morrison PIM	6	5	83.33	1	0	0
Magnum	7	6	85.71	1	0	0
Mair Astley	10	5	50.00	0	0	0
Manthel	4	1	25.00	0	0	1
McAlpine	7	6	85.71	1	0	0
McKechnie	5	3	60.00	1	0	0
Milburn	9	8	88.89	1	0	0
Montana	10	8	80.00	1	0	0
Motor Holdings	8	6	75.00	1	0	0
Mount Cook	8	8	100.00	1	0	0
NZ News	10	9	90.00	1	0	0
NZ Refining	11	11	100.00	1	0	0
NZ Salmon	6	3	50.00	0	0	0
NZ Steel	8	7	87.50	1	0	0
NZ Forest Products	12	8	66.67	1	0	0
NZ Industrial Gases	7	5	71.43	1	0	0
NZ Light Leathers	10	10	100.00	1	0	0
Neil	6	5	83.33	1	0	0
Newman's	9	7	77.78	1	0	0
Normedia	6	6	100.00	1	0	0
Nuhaka	5	5	100.00	1	0	0
Nuplex	10	9	90.00	1	0	0
Optical Holdings Ltd	6	5	83.33	1	0	0
Otago Press and Produce	4	4	100.00	1	0	0
Opio	5	5	100.00	1	0	0
Pacer Kerridge	4	3	75.00	1	1	1
PDL	6	2	33.33	0	1	1
Parapine	6	5	83.33	1	0	0
Progressive	9	6	66.67	1	0	0
Radio Avon	6	6	100.00	1	0	0
Radio Otago	6	5	83.33	1	0	0
Radio Pacific	5	4	80.00	1	0	0
Robt. Jones Investments	5	4	80.00	1	1	1
RW Hellaby	9	8	88.89	1	0	0
RW Saunders	7	6	85.71	1	0	0
Regina	6	3	50.00	0	0	1
Reid	11	9	81.82	1	0	0
Steel and Tube	9	6	66.67	1	0	0
Southland Frozen Meat	12	11	91.67	1	0	0
Salmond	6	5	83.33	1	1	1
Sanford	7	5	71.43	1	0	0
Selby	6	5	83.33	1	0	0
Skellerup	7	3	42.86	0	0	1
Smith-Biolab	6	5	83.33	1	0	0

Smiths City	5	1	20.00	0	0	0
Trans Ashburton	3	3	100.00	1	0	0
TAG	5	5	100.00	1	0	0
TNC	9	9	100.00	1	0	0
Taylor's	4	3	75.00	1	0	0
Transmark	5	3	60.00	1	0	0
Triumph	4	3	75.00	1	0	0
UEB	9	6	66.67	1	0	0
Venture Pacific	6	5	83.33	1	0	0
Wilkins & Davies	10	7	70.00	1	0	0
Wilson Horton	10	5	50.00	0	0	0
Wilson Neill	7	4	57.14	1	0	0
Waste Management	8	5	62.50	1	0	0
Waikato Stud	7	6	85.71	1	0	0
Waitaki	10	7	70.00	1	0	0
Wattie	12	10	83.33	1	0	0
Welgas	7	5	71.43	1	0	0
Wiljeff	9	8	88.89	1	0	0
Winstone	11	7	63.64	1	0	0
Wormald	6	5	83.33	1	0	0
XS	6	6	100.00	1	0	0
Yates	8	5	62.50	1	0	0

Appendix 6.3

BOARD STRUCTURE DATA, 1987

COMPANY	N	N_OUT	P_OUT	M_OUT	DUAL	EC
Arthur Barnett Properties	3	3	100.00	1	0	0
Arthur Barnett	7	4	57.14	1	0	0
Associated British Cables	8	6	75.00	1	0	0
Acadia	4	3	75.00	1	0	0
Aden	3	2	66.67	1	0	0
Advantage	5	5	100.00	1	0	0
Agland	6	4	66.67	1	0	0
Agricola	6	3	50.00	0	0	0
Aahead	6	5	83.33	1	0	0
Ajax	6	5	83.33	1	0	0
Akron	6	4	66.67	1	0	0
Allegra	4	3	75.00	1	0	0
Allflex	7	5	71.43	1	0	0
American.Strategic Inv'ts	8	8	100.00	1	0	0
Amuri	7	6	85.71	1	0	0
Angora	6	5	83.33	1	0	0
Angus	11	10	90.91	1	0	0
Anzon	5	5	100.00	1	0	0
Apparel	9	6	66.67	1	0	0
Apple	5	3	60.00	1	0	0
Arahi		3	75.00	1	0	0
Ararimu	6	4	66.67	1	0	0
Areco	3	3	100.00	1	0	0
Argus	9	3	33.33	0	0	0
Arpac	5	5	100.00	1	0	0
Ascent	6	5	83.33	1	0	0
Ascot	7	6	85.71	1	0	0
Asia Pacific Trading	4	3	75.00	1	0	0
Aurora	5	4	80.00	1	0	0
Aust. res	6	6	100.00	1	0	0
Australis	5	3	60.00	1	0	0
Autocrat	7	5	71.43	1	0	0
AW NZ Investments	4	3	75.00	1	0	0
Baillie	8	7	87.50	1	0	0
Bancorp	6	4	66.67	1	0	0
Barclays	8	7	87.50	1	0	0
Baycorp	5	2	40.00	0	1	1
Beta	6	5	83.33	1	0	0
Bexley	5	2	40.00	0	1	1
Brierley Investments Ltd	10	0	0.00	0	0	1
Blandford	8	5	62.50	1	0	0
Bank of New Zealand	7	7	100.00	1	0	0
BNZ Finance	6	4	66.67	1	0	0
Bowen	4	3	75.00	1	1	1
Bridgecorp	8	6	75.00	1	0	1
Broadway	6	3	50.00	0	0	0
Capital	8	7	87.50	1	0	0
Caprana	4	2	50.00	0	0	0
Carborundum	5	3	60.00	1	0	0
Cardrona	6	5	83.33	1	0	0
Carr	4	3	75.00	1	0	0
Cashcorp	7	6	85.71	1	0	0
Cashmere	5	5	100.00	1	0	0
Cavalier	9	4	44.44	0	0	0
CCL	4	3	75.00	1	1	1

Ceramco	9	7	77.78	1	0	0
Cerebos	7	6	85.71	1	0	0
Ceres	7	6	85.71	1	0	0
Chambard	4	3	75.00	1	0	0
Charter	6	5	83.33	1	0	0
Chase	8	0	0.00	0	1	1
Carter Holt Harvey	8	6	75.00	1	1	1
Corporate Investments Ltd	6	2	33.33	0	1	1
City	5	5	100.00	1	0	0
Clearwood	6	5	83.33	1	1	1
Colonial	9	6	66.67	1	0	0
Commercial	8	5	62.50	1	0	0
Commodore	6	4	66.67	1	0	0
Como	5	4	80.00	1	0	0
Compass	5	4	80.00	1	0	0
Coronet Equities	4	4	100.00	1	0	0
Coronet fe	6	4	66.67	1	0	0
Coronet UK	6	5	83.33	1	0	0
Countrywide	11	10	90.91	1	0	0
Cable Price Downer	12	9	75.00	1	0	0
Canterbury Roller Flour	4	4	100.00	1	0	0
Crowe	7	6	85.71	1	0	0
Crown	10	7	70.00	1	0	0
Cruise	5	1	20.00	0	0	0
Cue	4	3	75.00	1	1	1
Cory-Wright Salmon	8	7	87.50	1	0	0
Damba	6	3	50.00	0	1	1
De red	4	3	75.00	1	0	0
Donaghy's	7	6	85.71	1	0	0
Dunbar	7	6	85.71	1	0	0
Ernest Adams	8	5	62.50	1	0	0
Eastern Equities	6	5	83.33	1	0	0
Ebos	5	3	60.00	1	0	0
Electrocorp	5	5	100.00	1	0	0
Energycorp	5	0	0.00	0	1	1
Environ	7	6	85.71	1	0	0
Enzed	5	5	100.00	1	0	0
Epicorp	5	5	100.00	1	0	0
Equiticorp	11	5	45.45	0	0	0
Euro nat	5	2	40.00	0	1	1
Euro pac	4	3	75.00	1	0	0
Excell	5	5	100.00	1	0	0
Fisher & Paykel	11	6	54.55	1	0	0
F&R	5	2	40.00	0	0	0
Fletcher Challenge Ltd	15	9	60.00	1	0	0
Fay Richwhite & Co.	5	3	60.00	1	0	0
Feltex	6	5	83.33	1	0	0
Fernz	11	9	81.82	1	0	0
Firestone	6	4	66.67	1	1	1
First City	6	5	83.33	1	1	1
Fortuna	6	3	50.00	0	0	0
Foveuax	5	3	60.00	1	0	0
Fullers	7	6	85.71	1	0	0
Gaxe	5	3	60.00	1	0	0
General	6	4	66.67	1	0	0
Genestock	5	4	80.00	1	0	0
Goodman Fielder Watties	11	6	54.55	1	0	0
Gold Resources	3	1	33.33	0	1	1
Goldcorp	5	2	40.00	0	0	0
Grocorp	6	5	83.33	1	0	0
Hawkes Bay Transport	7	6	85.71	1	0	0
Hamelyn	5	3	60.00	1	0	0
Harcourt	6	4	66.67	1	0	0
Hallensteins	7	5	71.43	1	0	0
Helicopter	5	2	40.00	0	0	0
Heritage	4	2	50.00	0	1	1
Holdcorp	6	1	16.67	0	1	1
Horner	3	1	33.33	0	0	0
Hotel	8	6	75.00	1	1	1
Independent Broadcasting	5	5	100.00	1	0	0

ICI	6	4	66.67	1	0	0
Independent Newspapers	11	8	72.73	1	0	0
Interpac	9	7	77.78	1	0	0
Invesco	7	3	42.86	0	1	1
Investment Finance	7	3	42.86	0	0	0
Ivon Watkins Dow	8	8	100.00	1	0	0
Jarden Europe	5	4	80.00	1	1	1
J.Edmond	7	7	100.00	1	0	0
J.Smith	5	5	100.00	1	0	0
Jarden & Co	7	4	57.14	1	0	0
Judge	7	3	42.86	0	0	0
Kaurex	5	3	60.00	1	0	0
Kearns	7	7	100.00	1	0	0
Kenwood	5	3	60.00	1	0	0
Kidd	5	4	80.00	1	0	0
Kingsgate	8	6	75.00	1	1	1
Kiwi Bear	6	5	83.33	1	0	0
Kiwi Gold	3	3	100.00	1	0	0
Kiwi Oil	3	2	66.67	1	0	0
Kupe	7	7	100.00	1	0	0
L&M	7	6	85.71	1	0	0
Lakeland	8	6	75.00	1	0	0
Landmark	6	5	83.33	1	0	0
Lanes	8	4	50.00	0	0	0
Laser	5	3	60.00	1	1	1
Laurenson	5	4	80.00	1	0	0
LD Nathan	9	8	88.89	1	0	0
Leisureland	4	3	75.00	1	1	1
Leverage	4	3	75.00	1	0	0
Leyland	4	4	100.00	1	0	0
Leyland Growth	5	4	80.00	1	0	0
Lion	9	7	77.78	1	0	0
London	9	8	88.89	1	0	0
Lane Walker Rudkin	8	5	62.50	1	0	0
Michael Hill	4	2	50.00	0	1	1
M.hold	8	5	62.50	1	0	0
Madison	7	3	42.86	0	1	1
Magnum	8	7	87.50	1	0	0
Main	7	6	85.71	1	0	0
Mainstay	4	3	75.00	1	0	0
Mainzeal	3	0	0.00	0	1	1
Mair	11	6	54.55	1	0	0
Markham	5	4	80.00	1	0	0
Max	3	2	66.67	1	0	0
Maxwell	3	2	66.67	1	0	0
Mayfair	6	5	83.33	1	0	0
Mckechnie	6	4	66.67	1	0	0
Metro	7	2	28.57	0	0	0
Milburn	9	7	77.78	1	0	0
Mineral	6	4	66.67	1	1	1
Miniskips	5	4	80.00	1	0	0
Mirage	6	5	83.33	1	0	0
Morton	6	5	83.33	1	0	0
Mount Cook	7	6	85.71	1	1	1
Mutual	5	3	60.00	1	0	0
Mainzeal Properties	3	2	66.67	1	1	1
National Bloodstock	4	3	75.00	1	0	0
National Pacific	7	6	85.71	1	0	0
Newmans	12	10	83.33	1	0	0
Normedia	7	7	100.00	1	0	0
Nuhaka	5	5	100.00	1	0	0
Nuplex	10	8	80.00	1	0	0
NZ Equities	5	2	40.00	0	0	0
NZ Gold	4	4	100.00	1	0	0
NZ News	7	6	85.71	1	0	0
NZ Petroleum	8	8	100.00	1	0	0
NZ Refining	11	11	100.00	1	0	0
NZ Salmon	7	5	71.43	1	0	0
NZ Ski	3	2	66.67	1	0	0
NZ Steel	7	6	85.71	1	0	0

NZ Forest Products	9	8	88.89	1	0	0
NZI	12	8	66.67	1	0	0
NZ Light Leathers	10	10	100.00	1	0	0
NZ Oil and Gas	4	2	50.00	0	1	1
Optical Holdings Ltd	6	6	100.00	1	0	0
Oil	4	4	100.00	1	0	0
Omni	3	1	33.33	0	1	1
Opio	5	5	100.00	1	0	0
Otago	3	2	66.67	1	0	0
Owens	10	9	90.00	1	0	0
Perry Dines	4	4	100.00	1	0	0
Pacer	8	7	87.50	1	1	1
Pacific As	6	6	100.00	1	0	0
Pacific Sun	3	3	100.00	1	0	0
Paladin	3	2	66.67	1	1	1
Panz	3	2	66.67	1	0	0
Paynter	4	3	75.00	1	1	1
PDL	6	2	33.33	0	1	1
Petroleum	11	10	90.91	1	0	0
Pharmol	7	7	100.00	1	0	0
Platinum	5	4	80.00	1	1	1
Powercorp	5	5	100.00	1	0	0
Premiur	5	4	80.00	1	1	1
Primacq	5	1	20.00	0	0	0
Prime site	7	6	85.71	1	0	0
Prime west	4	2	50.00	0	1	1
Prodigal	5	4	80.00	1	0	0
Producorp	7	3	42.86	0	0	0
Progressive	7	6	85.71	1	0	0
Prorada	5	4	80.00	1	0	0
Prudential	6	6	100.00	1	0	0
Qtron	4	4	100.00	1	0	0
Radio Avon	7	6	85.71	1	0	0
Radio.Otago	6	5	83.33	1	0	0
Radio.Pacific	6	5	83.33	1	0	0
Ra Ora	4	4	100.00	1	0	0
Rada	8	7	87.50	1	0	0
Rank	3	1	33.33	0	0	0
Regal	6	3	50.00	0	0	0
Reid	11	10	90.91	1	0	0
Ren Props	5	4	80.00	1	0	0
Renouf	7	6	85.71	1	0	0
Restech	4	3	75.00	1	0	0
Richmond	7	3	42.86	0	0	0
RJI	4	2	50.00	0	1	1
RW Saunders	5	4	80.00	1	0	0
Steel & Tube	8	6	75.00	1	0	0
Southern Petroleum	6	6	100.00	1	0	0
Sanford	7	3	42.86	0	0	0
Scenic	3	2	66.67	1	1	1
Sigma	5	4	80.00	1	0	0
Skeggs	3	0	0.00	0	1	1
Skms	3	2	66.67	1	1	1
Smart	5	4	80.00	1	0	0
Ssmiths	8	3	37.50	0	1	1
Ssomex	5	4	80.00	1	0	0
Sound	4	4	100.00	1	0	0
South	7	2	28.57	0	1	1
Sspectrum	6	6	100.00	1	0	0
Ssmith	8	7	87.50	1	0	0
St Martins	5	4	80.00	1	0	0
Stars	7	4	57.14	1	1	1
Strada Ent	2	1	50.00	0	0	0
Strata	2	1	50.00	0	0	0
Strategic C	4	3	75.00	1	0	0
Strathmore	3	3	100.00	1	0	0
Striker	4	3	75.00	1	1	1
Summit	4	3	75.00	1	0	0
Tag	5	4	80.00	1	1	1
Taylors	4	3	75.00	1	0	0

Technicorp	7	6	85.71	1	0	0
Terrace	6	5	83.33	1	0	0
Theseus	3	3	100.00	1	0	0
Transequity	7	6	85.71	1	0	0
Transmark	6	5	83.33	1	0	0
Transpac	9	8	88.89	1	0	0
Triple M	6	5	83.33	1	0	0
Triumph	5	4	80.00	1	0	0
Troy	6	3	50.00	0	1	1
Tulwest	4	2	50.00	0	0	0
UBIX	5	3	60.00	1	0	0
Unigroup	8	4	50.00	0	0	0
United Resource Inv't	4	2	50.00	0	1	1
Venture Pacific	6	5	83.33	1	0	0
Venturecorp	4	3	75.00	1	0	0
Waikato stud	5	4	80.00	1	0	0
Wilkins & Davis	11	6	54.55	1	0	0
Wilson.Horton	9	4	44.44	0	0	0
Wilson.Neil	11	8	72.73	1	0	0
Waitaki	11	8	72.73	1	0	0
Waste	7	6	85.71	1	0	0
Welgas	11	10	90.91	1	0	0
Wellesley	5	2	40.00	0	1	1
Woodcorp	4	2	50.00	0	1	1
Woodstock	5	3	60.00	1	0	0
Wormald	8	6	75.00	1	1	1
XS	5	4	80.00	1	0	0

Appendix 6.4

BOARD STRUCTURE DATA, 1990

COMPANY	*N*	*N_OUT*	*P_OUT*	*M_OUT*	*DUAL*	*EC*
Agland	4	3	75.00	1	0	0
Agricola	5	4	80.00	1	0	0
Ahead	3	1	33.33	0	0	0
Air New Zealand	9	9	100.00	1	0	0
Amuri	8	7	87.50	1	0	0
Aorangi	4	4	100.00	1	0	0
Apparel	5	5	100.00	1	0	0
Apple feilds	7	4	57.14	1	0	0
Arahi	3	3	100.00	1	0	0
Ararimu	5	5	100.00	1	0	0
Arthur Barnett	6	5	83.33	1	0	0
Arthur Barnett Properties	4	4	100.00	1	0	0
Ascott	5	4	80.00	1	0	0
Asian	5	3	60.00	1	0	0
Australis	4	3	75.00	1	1	1
Bank of New Zealand	7	6	85.71	1	0	0
BNZ Finance	6	5	83.33	1	0	0
Baycorp	5	3	60.00	1	0	0
Blandford	5	4	80.00	1	0	0
Bridgecorp	7	6	85.71	1	0	0
Brierley Investments Ltd	9	3	33.33	0	0	1
Broadway	5	4	80.00	1	0	0
Canterbury Roller Flour	4	4	100.00	1	0	0
Carborundum	4	3	75.00	1	0	0
Cardrona	4	3	75.00	1	0	0
Carr	3	2	66.67	1	0	0
Carter Holt Harvey	8	5	62.50	1	1	1
Cavalier	8	3	37.50	0	0	0
Ceramco	7	6	85.71	1	0	0
Chambard	3	2	66.67	1	0	0
City realties	5	5	100.00	1	0	0
Colonial Motor	9	8	88.89	1	1	1
Consol. hard	3	3	100.00	1	0	0
Corporate Investments Ltd	8	3	37.50	0	1	1
Countrywide	9	7	77.78	1	0	0
Creditcorp	5	3	60.00	1	0	0
Crowe	3	3	100.00	1	0	0
Cue	3	1	33.33	0	1	1
Dunbar Sloane	6	5	83.33	1	0	0
Damba	6	4	66.67	1	1	1
Donaghy's	9	6	66.67	1	0	0
Eastern equities	5	4	80.00	1	0	0
EBOS	6	5	83.33	1	0	0
Elders	11	10	90.91	1	1	1
Ernest Adams	7	4	57.14	1	0	0
Euro national	7	5	71.43	1	0	0
FERNZ	7	5	71.43	1	0	0
Fay Richwhite & Co.	7	3	42.86	0	0	0
Firestone	5	3	60.00	1	1	1
Fisher and Paykel	8	5	62.50	1	0	0
Fletcher Challenge	12	8	66.67	1	0	0
Fortex	10	6	60.00	1	0	0
Foveaux	5	4	80.00	1	0	0
Further	3	3	100.00	1	0	0
General Props	6	5	83.33	1	0	0
Goodman Fielder Wattie	12	7	58.33	1	0	0

Girvan	3	2	66.67	1	0	0
Gold	3	0	0.00	0	1	1
Grocorp	7	6	85.71	1	0	0
Hallensteins	6	4	66.67	1	0	0
Helicopter	6	2	33.33	0	0	0
Heritage	4	2	50.00	0	1	1
IEP	6	5	83.33	1	0	0
Independent Newspapers Ltd	12	10	83.33	1	0	0
Jarden	7	5	71.43	1	0	0
Kenwood	5	2	40.00	0	0	0
Kingsgate	6	5	83.33	1	0	0
Kiwi Gold	3	2	66.67	1	0	0
Kiwi International	4	4	100.00	1	0	0
Kupe	5	5	100.00	1	0	0
Lasercorp	5	3	60.00	1	1	1
Lectrica	6	6	100.00	1	0	0
Leisure Lea	3	1	33.33	0	0	0
Lion	11	6	54.55	1	0	0
London Pacific	5	5	100.00	1	0	0
Macraes	4	2	50.00	0	0	0
Magnum	9	6	66.67	1	0	0
Mainzeal	6	2	33.33	0	1	1
Mair Astley	6	5	83.33	1	0	0
Max Marine	3	2	66.67	1	1	1
Max Resource	3	2	66.67	1	0	0
McConnel	7	4	57.14	1	0	0
Michael Hill	5	2	40.00	0	0	1
Milburn	8	7	87.50	1	0	0
Mineral	6	4	66.67	1	1	1
Mount Cook	8	8	100.00	1	0	0
NZ Duty Free	3	3	100.00	1	0	0
NZ Refin	11	11	100.00	1	0	0
NZ Salmon	7	5	71.43	1	0	0
NZ Light Leathers	7	7	100.00	1	0	0
NZ Petroleum	10	10	100.00	1	0	0
Normedia	4	4	100.00	1	0	0
Nuhaka	5	5	100.00	1	0	0
Nuplex	10	9	90.00	1	0	0
NZ Oil and Gas	5	3	60.00	1	1	1
Otago Press and Produce	3	3	100.00	1	0	0
Opio	5	5	100.00	1	0	0
Owens	9	8	88.89	1	0	0
PDL	6	2	33.33	0	1	1
Pacer Kerridge	4	3	75.00	1	1	1
Panz	3	2	66.67	1	0	0
Parapine	5	4	80.00	1	0	0
Paynter	4	3	75.00	1	1	1
Perry Dines	3	2	66.67	1	0	0
Pharmol	4	3	75.00	1	0	0
Platinum	4	3	75.00	1	1	1
Premiur	3	2	66.67	1	0	0
Property Link	7	7	100.00	1	0	0
RJI	7	1	14.29	0	1	1
Radio Otago	6	5	83.33	1	0	0
Radio Pacific	6	5	83.33	1	0	0
Rank	3	2	66.67	1	0	0
Regal	6	2	33.33	0	0	0
Reid	10	9	90.00	1	0	0
Renouf corp	5	4	80.00	1	0	0
Renouf props	3	1	33.33	0	0	0
Restech	4	0	0.00	0	0	1
Sanford	7	3	42.86	0	0	0
Scenic	3	2	66.67	1	1	1
Shortland	4	3	75.00	1	0	0
Smiths City	5	4	80.00	1	0	0
Spectrum	4	3	75.00	1	0	0
Ssb	8	7	87.50	1	0	0
Steel and Tube	6	5	83.33	1	0	0
Stevens kms	4	4	100.00	1	0	0
Sthn petrol	8	7	87.50	1	0	0

Strada	2	1	50.00	0	0	0
Strathmore	3	3	100.00	1	0	0
Summit	4	3	75.00	1	0	0
TAG	6	5	83.33	1	0	0
TV3	8	6	75.00	1	0	0
Taylor's	4	3	75.00	1	0	0
Transmark	5	4	80.00	1	0	0
Triumph	3	2	66.67	1	0	0
U-bix	6	4	66.67	1	0	0
United Resources Inv't Hlgs	4	2	50.00	0	1	1
Venture Pacific	3	2	66.67	1	0	0
Waikato Stud	4	4	100.00	1	0	0
Waste Management	6	4	66.67	1	0	0
Wilson Horton	9	4	44.44	0	0	0
Wilson Neill	8	4	50.00	0	0	0
Woodcorp	4	2	50.00	0	0	0
XS	3	3	100.00	1	0	0

Appendix 6.5

BOARD STRUCTURE DATA, 1993

COMPANY	*N*	*N_OUT*	*P_OUT*	*M_OUT*	*DUAL*	*EC*
Arthur Barnett	6	4	66.67	1	0	0
Advantage	4	2	50.00	0	1	1
Agland	4	3	75.00	1	0	0
Air nz	11	10	90.91	1	0	0
Amuri	9	8	88.89	1	0	0
Apple	6	3	50.00	0	0	0
Ascot	4	4	100.00	1	0	0
Asian props	5	2	40.00	0	1	1
Baycorp	4	2	50.00	0	0	0
Best	5	3	60.00	1	1	1
Brierley Investments	12	5	41.67	0	0	0
BNZ Finance	5	4	80.00	1	0	0
Broadway	5	3	60.00	1	0	0
Carr	4	3	75.00	1	0	0
Cavalier	8	3	37.50	0	0	0
CDL	5	5	100.00	1	0	0
Cedenco	6	4	66.67	1	0	0
Ceramco	9	6	66.67	1	0	0
Carter Holt Harvey	9	7	77.78	1	0	0
Corporate Investments Ltd	5	4	80.00	1	0	0
Colonial	8	8	100.00	1	0	0
Creditcorp	5	4	80.00	1	0	0
Canterbury Roller Flour	4	4	100.00	1	0	0
Cue	3	2	66.67	1	1	1
Cultus	4	3	75.00	1	0	0
Dunbar Sloane	5	4	80.00	1	0	0
Damba	5	4	80.00	1	0	0
DB	7	6	85.71	1	0	0
Defiance	5	0	0.00	0	1	1
Designer	5	3	60.00	1	0	0
Donaghys	7	5	71.43	1	0	0
Dorchester	6	5	83.33	1	0	0
Ernest Adams	8	6	75.00	1	0	0
Energy Direct	8	7	87.50	1	0	0
Eastern Equities	7	5	71.43	1	0	0
Ebos	5	3	60.00	1	0	0
Enerco	6	5	83.33	1	0	0
Evergreen	3	2	66.67	1	0	0
Fisher & Paykel	9	5	55.56	1	0	0
Fay Richwhite	8	3	37.50	0	0	0
Fletcher Challenge Ltd	13	9	69.23	1	0	0
Fernz	8	6	75.00	1	0	0
Firestone	4	3	75.00	1	1	1
Fortex	7	6	85.71	1	0	0
Fruitfed	5	4	80.00	1	0	0
Gold resources	3	3	100.00	1	0	0
Goodman	11	8	72.73	1	0	0
GPG	4	2	50.00	0	1	1
Grocorp	7	6	85.71	1	0	0
Gulf	5	4	80.00	1	0	0
Hallensteins	6	5	83.33	1	0	0
Helicopter	6	4	66.67	1	0	0
Heritage	4	2	50.00	0	0	1
Huttons	6	4	66.67	1	0	0
Independent Newspapers	11	9	81.82	1	0	0
Jarden asia	7	3	42.86	0	0	0
Jarden china	6	4	66.67	1	0	0

Kingsgate	6	5	83.33	1	0	0
Kiwi gold	4	2	50.00	0	1	1
Kiwi property	5	3	60.00	1	0	0
Kiwi intl	4	3	75.00	1	0	0
Kupe	4	4	100.00	1	0	0
Lectrica	4	4	100.00	1	0	0
Lion nathan	11	8	72.73	1	0	0
Lane Walker Rudkin	8	7	87.50	1	0	0
Michael Hill	5	2	40.00	0	1	1
Macraes	6	4	66.67	1	0	0
Mainzeal	7	4	57.14	1	0	1
Mair Astley	6	5	83.33	1	1	1
Mannor Inns	3	2	66.67	1	0	0
Mastertrade	4	3	75.00	1	1	1
Max res	3	1	33.33	0	0	1
McConnell	9	8	88.89	1	0	0
Milburn	8	7	87.50	1	0	0
Mineral Resources	5	4	80.00	1	1	1
Mr Chips	4	3	75.00	1	0	0
Mt Cavendish	6	6	100.00	1	0	0
Noel Leeming	5	4	80.00	1	0	0
Northland Port	7	7	100.00	1	0	0
Natural Gas	6	6	100.00	1	0	0
Nuhaka	5	5	100.00	1	0	0
Nuplex	5	4	80.00	1	0	0
NZ Duty Free	3	2	66.67	1	0	0
NZ Petroleum	7	7	100.00	1	0	0
NZ Refining	11	11	100.00	1	0	0
NZ Rural Properties	8	7	87.50	1	0	0
NZ Salmon	4	4	100.00	1	0	0
NZ Light Leathers	6	6	100.00	1	0	0
New Zealand Oil and Gas	4	2	50.00	0	1	1
Opio	5	5	100.00	1	0	0
Owens	11	10	90.91	1	0	0
Power Beat	5	3	60.00	1	0	0
Ports of Auckland	8	8	100.00	1	0	0
Property Link	7	7	100.00	1	0	0
Ports of Tauranga	9	9	100.00	1	0	0
Perry Dines	5	4	80.00	1	0	0
Parapine	4	4	100.00	1	0	0
Paynter	4	3	75.00	1	1	1
PDL	6	2	33.33	0	1	1
Progressive	8	7	87.50	1	0	0
Radio Otago	7	6	85.71	1	0	0
Radio Pacific	7	6	85.71	1	0	0
Regal	5	2	40.00	0	0	0
Reid	9	8	88.89	1	0	0
Restech	3	1	33.33	0	0	0
Robt. Jones Investments	7	4	57.14	1	0	0
Steel & Tube	7	5	71.43	1	0	0
Sanford	6	3	50.00	0	0	0
Shortland	5	4	80.00	1	0	0
Shotover	5	4	80.00	1	0	0
Skellerup	7	6	85.71	1	0	0
Spectrum	4	4	100.00	1	0	0
Ssb	8	6	75.00	1	0	0
Stevens kms	7	6	85.71	1	0	0
Sthn petrol	6	5	83.33	1	0	0
Strada	2	1	50.00	0	0	0
Strathmore	3	2	66.67	1	1	1
Summit	6	4	66.67	1	0	0
Tag	6	4	66.67	1	1	1
Tasman Agriculture	6	4	66.67	1	0	0
Taylors	7	6	85.71	1	0	0
Telecom	10	9	90.00	1	0	0
Transmark	6	5	83.33	1	0	0
Triumph	3	2	66.67	1	0	0
U-bix	5	4	80.00	1	0	0
URIH	4	3	75.00	1	1	1
Williams & Kettle	10	8	80.00	1	0	0

Wilson Horton	8	4	50.00	0	0	0
Wilson Neill	4	2	50.00	0	0	0
Wairarapa	6	5	83.33	1	0	0
Wang	5	5	100.00	1	0	0
Waste Management	6	5	83.33	1	0	0
Whitcoulls	5	2	40.00	0	1	1

Appendix 7.1

CORPORATE AND FOREIGN CONTROL CLASSIFICATIONS, 1985

Explanatory note:

This appendix and the two appendices that follow provide the corporate control classifications of New Zealand public listed companies. These classifications follow Fogelberg's (1980) classification scheme. The entry for each company contains the following information:

COMPANY NAME
Identity of major shareholder(s) *X* *F*
[representative(s) of major shareholder(s) on board]

where:
X denotes the percentage of issued voting capital held by the major shareholder
F denotes that the company is foreign controlled. In the event that a company is not foreign controlled then the letter F is not present in this column.

MAJORITY CONTROLLED

(54 COMPANIES)

ALCAN NZ LTD
Alcan Aluminium Ltd 69.2 F

ALEX HARVEY INDUSTRIES LTD
ACI New Zealand Ltd 55.6

AJAX MCPHERSON LTD
McPherson's (NZ) Ltd 50.3 F

AM BISLEY & CO. LTD
Jedi Corporation Ltd 80.0

ANGUS GROUP

Angus Corporation Ltd	50.0	
ASTEA TOLLEY ELECTRIC COMPANY		
ASEA Electric (NZ) Ltd	51.0	F
ASSOCIATED BRITISH CABLES LTD		
BICC plc	58.5	F
AURORA GROUP LTD		
Feltex NZ Ltd	54.0	
AUTOCRAT SANYO HOLDINGS (NZ) LTD		
Sanyo Electric Coy Ltd and associated interests	50.3	F
BAILLIE FARMERS MOTORS LTD		
Brierley Investments Ltd	54.6	
CAPITAL CITY RADIO LTD		
Brierley Investments Ltd	51.0	
CHRISTCHURCH PRESS CO. LTD		
Pyne Gould Guiness Ltd	52.4	
COMMAND SERVICES CORPORATION LTD		
Pritchard Services Group Holdings Pty Ltd	66.7	F
COOKS NZ WINE CO. LTD.		
Brierley Investments Ltd	60.5	
CONSOLIDATED METAL		
Brierley Investments Ltd	81.0	
CORPORATE INVESTMENTS LTD		
Masfen and Wigglesworth interests	76.4	
CORY-WRIGHT AND SALMON LTD		
Tatra Investments Ltd	55.8	
DIC Stores Ltd		
Brieley Investments Ltd	55.0	

DINGWALL & PAULGER Dingwall & Paulger families	50.5	
EMCO Steel and Tube Holdings Ltd	64.4	
FIRESTONE Firestone Tyre and Rubber Co.	83.3	F
GOLDEN BAY CEMENT CO. LTD Associated International Cement Ltd	55.2	F
GOODMAN GROUP LTD Goodman Nominees Ltd and associated interests	51.0	
HAURAKI ENTERPRISES Brierley Investments Ltd	52.6	
HUME INDUSTRIES (NZ) LTD Hume Holdings (NZ) Ltd	77.7	F
HUTTON'S Brierley Investments Ltd	75.5	
ICI NZ LTD ICI Australia Ltd	75.0	F
INDEPENDENT BROADCASTING Independent Newspapers Ltd	50.6	
IVON WATKINS-DOW LTD Dow Chemical Company Ltd	51.0	F
JAMES HARDEY IMPEY LTD Hardie Holdings (NZ) Ltd	71.8	F
JOHN BURNS AND CO. LTD Acropolis Investments Ltd	50.7	
KINGSGATE INTERNATIONAL		

Jit Poh Investments Private Ltd	91.8	F
LANE'S		
Brierley Investments Ltd	53.2	
MANTHEL HOLDINGS LTD		
Manthel family and associates	60.3	
MCALPINE INDUSTRIES LTD		
Rangitira Ltd	51.2	
MCKECHNIE BROTHERS (NZ) LTD		
McKechnie Bros Ltd, England	68.9	
MILBURN		
Holderbank Financiere Glaris Ltd	42.1	F
M O'BRIEN AND CO. LTD		
Lane Walker Rudkin Industries Ltd	53.9	
MORRISON-PIM HOLDINGS LTD		
Brierley Investments Ltd	61.6	
NEIL		
Brierley Investments Ltd	98.0	
NZ INDUSTRIAL GASES LTD		
BOC Group plc	61.4	F
NZ LIGHT LEATHERS		
Amalgamated Products Ltd	50.0	
NUPLEX		
Monsanto Australia Ltd	65	F
OHL		
Optical Holdings Ltd and Masfen, PH	50.02	
PDL		
Stewart family interests	60.7	
REGINA		

Charter Corporation Ltd	58.6	
SOUTHLAND FROZEN MEAT LTD		
Fletcher Challenge Ltd	50.1	
TAG PACIFIC		
Anthony Group Ltd	60.4	F
TAYLORS		
Robertson, RD and Taylor, JS DD Robertson Investments and associates	53.1	
TRANS ASHBURTON LTD		
Brierley Investments Ltd	53.5	
WASTE MANAGEMENT		
Bowkett, HK; Jamieson, JA and Baigent, HK	71.2	
WATTIE INDUSTRIES LTD		
Goodman Group Ltd and NZ Forest Products Ltd	50.4	
WILLIAMSON JEFFERY LTD		
Brierley Investments Ltd	55.2	
WORMOLD INTERNATIONAL NZ LTD		
Wormold International Ltd	60.0	F
YATES CORPORATION LTD		
Equitycorp	75.0	

MINORITY CONTROLLED

(69 COMPANIES)

ABACUS		
Mellon Management Ltd [Borren, A; Strange, AW; McKenzie, GE]	44.4	

ALLFLEX
McPhail, WC; Bisland, R; Garden, GJ — 33.8
[all directors]

ANDAS GROUP LTD
Brierley Investments Ltd — 38.8
[Thompson, C]

APPAREL
Polo Investments (1984) Ltd and associated interests — 38.4

ARNOLD AND WRIGHT LTD
Zellcote Spray Co (1975) Ltd — 31.7
[Wise, PH]
Arnold family — 29.3
[Arnold, LR; Arnold, SA]

ARTHUR ELLIS HOLDINGS LTD
Northern Feather International Ltd — 32.9 F
[Stapleton, PJ]

ASHBY BERGH & CO. LTD
John Edmond Holdings Ltd — 44.0
[Edmond, AM; Edmond, WLF]

ATLAS
Ceramco Corporation Ltd — 39.5
[Clark, TE; Bellew, WG]
Bidwill and Gibbs interests — 32.2
[Bidwill, CR; Gibbs, AT]

AUCKLAND GAS CO. LTD
Welgas Holdings Ltd — 24.9
[Beyer, TJN; Revell, HW]

BROADWAY
Southbury Investments Ltd — 28.9
(Hubbard, AR; Simpson, TM; Mayne, JM)
[Rolleston, HJD]

CABLE PRICE DOWNER LTD
Crown Corporation Ltd — 20.0
[Lough, NV; Steele, RW]

CARBORNUDUM
Carbo Holdings Ltd 18.9
(Greenstreet, RA and Latham, CA)
[Greenstreet, RA]

CARDRONA
Lee, JA 18.0
Dueease, WE 19.9
[both directors]

CAVALIER
Timpson, AC and Biel, GCW interests 34.4
[both are directors]
AMP Society 5.7

CERAMCO LTD
Kupe Petroleum NL 15.4
[Grayburn, PW; Hamilton, GSA]

CITY REALTIES
National Insurance Co. 32.1
[St. John, DS]

COLONIAL MOTOR
Gibbons family and associates 27.0
[FN, GH, JG, MH Gibbons]

CROWN CORPORATION LTD
Cable Price Downer Ltd 24.3
[Lough, NV; Steele, RW]

DOMINION BREWERIES LTD
Brierley Investments Ltd 30.8
[Brierley, RA; Hancox, BA]

DONAGHY'S
Kinnears Ltd (Aust) 24.2 F
[Millar, RN]

EBOS
United N.Z. Nominees Ltd 23.4
(Brierley Investments Ltd)
[Martin, RT]

ENDEAVOUR SERVICES CORPORATION LTD
Plowman family and associates 34.6
[Plowman, JH; Plowman, NH]

ERNEST ADAMS
Adams family interests 26.7
(from Directory of Shareholders 19/12/84)
[HA and RH Adams]

FELTEX NZ LTD
Equiticorp 47.7
[Syme, JMR; Hawkins, AW; Gunthorp, I]

FERNZ
Fertilizer Holdings Ltd 21.1
[Smith, BC]

FISHER & PAYKEL
Fisher and Paykel families and associates 26.5
[Fisher, G; Paykel, GA; Paykel, M;
Wilson, W; Norton, RH]

FOVEAUX RADIO
Radio Avon Ltd and its directors 27.6
[Jenkins, TH; Kirkpatrick, IJ;
Mortlock, PL; Wesney, N]

GROCORP
NZI Properties Ltd 18.4
(Leyland Capital)
[Jewell, RW; McGrath, JP]

GROSVENOR PROPERTIES
Fletcher Challenge Ltd and associated 47.8
interests
[Hodgetts, JW]

HENRY BERRY LTD
Ceramco Ltd 40.0
[Nichols, WA; Smith, KMP]

INDEPENDENT NEWSPAPERS
News Ltd 21.2 F
[Macpherson, JA]

JAMES SMITH LTD
Smith family and associates 25.6
[Smith, DA; Smith, BK; Baird, RW;
Nelson, JL]

JOHN EDMONDS HOLDINGS LTD		
Edmond family	19.9	
[Edmond, LF; Edmond, AM]		
JOHN WEBSTER AND CO. LTD		
Goldsmith family	33.9	
[Goldsmith, AJ]		
LD NATHAN CO. LTD		
Woolworths Australia Ltd	19.4	F
[Waldron, CT]		
LEYLAND INVESTMENT CO. LTD		
Strevens family and associates	35.6	
[Strevens, WJ]		
LION		
Myers, AD and associated interests	20.3	
[Myers, AD; Fernyhough, CJ]		
MAGNUM (ROTHMANS)		
Godolphin Laing Ltd	16.2	
(Butland, KD; Cornes, PJ; MacDonald, OA; Matthew, RH)		
[all except Cornes are directors]		
MONTANA WINES LTD		
Seagram Company Ltd	43.8	
[MacLennan, AR]		
MOUNT COOK		
Air New Zealand Ltd	30.0	
[Dalgety, JD; Hunter, MF]		
DB Hotels Ltd	26.9	
[Fletcher, JR]		
NZ FOREST PRODUCTS LTD		
Watties Industries Ltd	23.8	
[Pettigrew, R; Gunn, OR; Hunt, WA; Lyon, CS]		
NZ REFINING		
BP Oil New Zealand Ltd	23.7	
[Black, EH; Milward, RJ; Revell, AA]		
Mobil Oil New Zealand Ltd	19.2	
[Makeig, RWL; Marrett, RA]		
Shell New Zealand Holding Co. Ltd	17.1	
[Dineen, BMJ; Skinner, PD]		

NZ SALMON
Renouf Portfolio Management Ltd, 17.1
Judge, JF and Underwood, S
[both are directors]

NEWMAN'S
Goodman Group Ltd 24.6
[Goodman, PLB]

NZ NEWS LTD
Brierley Investments Ltd 36.1
[Hancox, BA; Brierley, RA;
McDonald, DH]

NUHAKA
Caxton Paper Mills 23.9

OPIO
Feltex Industries Ltd 40.9
AMP Society 20.0
[Dingle, JR; Huse, HW; Keppel, CJ;
Hambling, EG; Valentine, GW]

OTAGO PRESS AND PRODUCE
Fraser family and associates 15.3
[Fraser, TC]
Smith family and associates 19.2
[Smith, JCS]

PACER KERRIDGE
Phillips, DW & SB [both directors] 22.4

PARAPINE (GENESTOCK)
Alpha-Laval Agriculture International 19.1 F
[West, E]

RADIO AVON LTD
Skope Venda Ltd 15.0
[Robertson, AW; Stewart, RJ]

RADIO OTAGO
Radio Avon Ltd 20.0
[Kirkpatrick, IJ]
Rutherford, WJ [a director] 10.7
Gilks, JW and associates 8.9
[Gilks, JW is a director]

REID FARMERS
Waitaki NZR Ltd — 27.7
[Valentine, JA; Hutton, AR; Ryan, JM]

RW SAUNDERS LTD
Brierley Investments Ltd — 20.0
[Iggo, TG]

SALMOND INDUSTRIES LTD
E H Linnel & Co Ltd — 29.8
[Salmond, GW; Salmond, IR]

SANFORD
Amalgamated Dairies Ltd — 17.6
and Goodfellow, WD
[Goodfellow, WD]

SELBY SHOE CO. LTD
Tullamore Hldgs Ltd — 19.7
[Ellis, KR]

SKELLERUP INDUSTRIES LTD
Skellerup family — 24.1
[Skellerup, PJR; Skellerup, GW;
Skellerup, CV]

STEEL AND TUBE
Fletcher Metals Ltd — 24.7
[Fair, JC; Smith, JG]

TRANSMARK
Moyes and Groves family interests — 48.7
and associates
[Groves, MW; Moyes, VR; Moyes, GR;
Tanner, MJ]

TRANSPORT (NORTH CANTERBURY) HOLDINGS LTD
Grant family — 27.7
[Grant, RL; Grant, RS]

UEB INDUSTRIES LTD
NZ Forest Products Ltd — 39.1
[Papps, LM; Hunt, WA; Pettigrew, R;
Walker, PO]

VENTURE PACIFIC
Investment Finance Corporation Ltd — 33.4

[Ross, DJ; Farquhar, DN]

WAITAKI NZ REFRIGERATION LTD
Wattie Finance Ltd 39.8
[Lyon, CS; Morriss, WT]

WELGAS
Brierley Investments Ltd 24.6
[Beyer, TJN; Brierley, RA]

WILKINS AND DAVIES CONSTRUCTION CO. LTD
Steel and Tube Holdings Ltd 22.8
[Lowis, DW]

WILSON NEILL
Herbert, CF [a director] 32.3

WINSTONE LTD
Brierley Investments Ltd 34.1
[Collins, PD; Hancox, BA]

JOINT CONTROLLED

(10 COMPANIES)

BRIERLEY
Brierley, RA [a director] 5.8
AMP Society 4.9

FLETCHER CHALLENGE
AMP Society 8.3
NML Association of Australasia Ltd 4.3
Employee Share Purchase and Pension Schemes (including trustees holdings) 13.8
[Fletcher, JA; Fletcher, J; Sadler, DG; Trotter, RR; Small, IR]

LANE, WALKER, RUDKIN INDUSTRIES LTD
Rudkin and Lane families 5.9
[Rudkin, PH is Managing Director; Rudkin, NH; Rudkin, AJ is an Executive Director]

NORMEDIA

McCully, MS [a director]	11.6
Northern Publishing Co. Ltd [Barrow, GA]	8.4
Johnston, PL [a director]	8.9

RADIO PACIFIC

Finlayson, RJ	12.0
Lowe, DSR	9.6
South Pacific Travel Holdings Ltd (partly owned by Wadsworth, AG)	8.6

RJI

Robert Jones Holdings Ltd and its nominees [Jones, R]	9.1

SMITHS CITY

Smiths City Market (Investments) Ltd and asscociated interests [Smith, DR; Smith, KGC; Smith, CD; Beattie, H]	13.4
Government Insurance Commissioner	16.4

TRIUMPH INDUSTRIES LTD

Leggett, RJ and White, WN [both are directors; Leggett is M.D.]	8.0
Dominion Mortgage Services Ltd (Challenge Corporate Services - subsidiary of Fletcher Challenge Ltd) [not represented on board]	8.5

WAIKATO STUD

Centurion Securites and associated parties (Castle, CD; Lawrey, JS; Kelly, DD; Knight, RF; Hatchwell, JE) [Castle, CD; Lawrey, JS]	13.3
Albers, EG [a director]	7.1
NZ Guardian Trust Co.	6.5

XS

Plimmer, BK	12.0
Egerton, TC [both are directors]	4.3

MANAGEMENT CONTROLLED
(10 COMPANIES)

ARTHUR BARNETT LTD

Government Life Insurance Corp	5.1
Barnett family interests	4.3
[Barnett, AM; Barnett, AW; Barnett, MG]	

CANTERBURY ROLLER FLOUR

Brand, J [director]	7.1
Klissers Farmhouse Bakeries Ltd	5.4

CARTER HOLT HARVEY

Carter family interests	2.1
NML Association of Australia	23.5
AMP Society	10.7
Courtnay Nominees Ltd (Todd Group)	5.7
Fisher & Paykel Industries Ltd	2.9
CML Assurance Society Ltd	2.4

Carter family interests are represented on the board by RHA, KFL and KCA Carter.

FARMERS TRADING CO. LTD

AMP Society	7.2
NML Association of Australia Ltd	2.8
State Insurance Office	2.7
Employee Share Purchase Scheme	2.7
Westpac Banking Corp	2.4
Governement Life Insurance Office	1.7
Norwich Union Life Insurance Society	1.2
NZ Guardian Trust Co Ltd	1.2
AMP Fire and General Insurance Coy	1.0

GENERAL PROPERTIES

Jarden Properties Ltd	19.4
[not represented]	
Moller Holdings Ltd	7.5
[Moller, NR - not an executive]	
Colonial Mutual Life Assurance	7.1

HALLENSTEINS

Hugh Wright Ltd	13.7
(no obvious representation)	
Halsted interests	3.5
[Halsted, IJ]	
Friedlander, EM [a director]	

MAIR ASTLEY	
Government Insurance Commisioner	9.8
NML Association	8.9
State Insurance	5.0
Andrae & Co Ltd and associated interests (Gould, MG; Herrick, TM; Nicholls, PW; Nicholls, PA; Nicholls, RNV)	9.3
Young, RM; Stokes, BW; Mair, AJ and associated interests	5.3
Shadwell, AD [Managing Director]	0.3
PROGRESSIVE ENTERPRISES LTD	
Wilson, W [non-executive director]	3.7
SMITH-BIOLAB LTD	
AA Mutual Insurance Coy Ltd	11.9
[not represented]	
Smith, TW [a director]	0.6
WILSON HORTON	
AMP Society	13.9
NZ Guardian Trust Co.	5.4
Wilson and Horton family interests	1.7

Appendix 7.2

CORPORATE AND FOREIGN CONTROL CLASSIFICATIONS, 1990

MAJORITY CONTROLLED

(73 COMPANIES)

AGLAND HOLDINGS Strand (NZ) Ltd (Strand (Australia) Ltd)	50.5	F
AGRICOLA Stratacorp Financial Ltd (National Provident Fund)	83.4	
AHEAD GROUP Arnton Enterprises Ltd	61.5	
AORANGI HOLDINGS Primacq Holdings Ltd	65.0	
APPLE FIELDS Kain family interests and associates	50.8	
APPAREL HOLDINGS Brierley Investments Ltd	70.6	
ARAHI Goldcorp Holdings Ltd	68.3	
ARARAIMU HOLDINGS Hawkins family and associated interests	63.5	

ARTHUR BARNETT PROPERTIES Arthur Barnett Ltd and associated interests	69.5	
ASCOT MANAGEMENT Broadway Industries Ltd	62.1	
AUSTRALIS INTERNATIONAL Thwaites, JS	61.4	
BNZ The Crown	51.6	
BNZ FINANCE Bank of New Zealand	78.8	
BROADWAY Hubbard, A; Rolleston, HJD; Farrant, IF; Nichol, JE; Andrews, PA and associates	61.8	
CARDRONA Farrant, IF; Paynter, JR; Maclachlan, DHD; Healy, CP and associates	74.6	
CARR BUSINESS SERVICES Carr family interests	59.2	F
CITY REALTIES Gulfpac Limited and Zelas Enterprises Ltd (Gulf Resources and Chemical Corp.)	91.2	F
CONSOLIDATED HARDWOOD Walker, AL and Walker, LK	81.0	
CORPORATE INVESTMENTS LTD Masfen, PH	56.7	
EBOS Theseus Investments Ltd	60.9	
ELDERS Carter Holt Harvey	52.7	

FAY RICHWHITE Fay, M and Richwhite, DM	72.1	
FIRESTONE Bridgestone/Firestone Inc.	83.3	F
FOVEAUX RADIO Radio Otago Ltd and its directors	91.6	
FURTHER DEVELOPMENTS Fortuna Corporation Ltd	71.3	
GIRVAN CORPORATION Intrax Investments Ltd	74.1	
GOLD RESOURCES Mineral Resources NZ Ltd and associated interests	54.0	F
INDUSTRIAL EQUITY (PACIFIC) Brierley Investmnents Ltd	70.0	
KINGSGATE INTERNATIONAL Ballas Nominees (Private) Ltd (Jit King Investments Pte Ltd)	71.0	F
KIWI GOLD Smith, MJ; Boniface, IN; Holland, WB; Cleland, AL and associates	63.8	
KIWI INTERNATIONAL Moondance Ventures Ltd	85.1	
LASERCORP PDL Holdings Ltd and associated interests	67.3	
LECTRICA Tag Corporation Ltd	51.9	F
LEISURE LEA Crowder, G; Lake, TJ; Chartres, LJ	81.8	

LONDON PACIFIC Shelco Investments Ltd	57.3	F
MAXWELL MARINE Cunby, GM and associates	59.5	
MCCONNELL DOWELL McConnell and Dowell families	68.4%	
MICHAEL HILL INTERNATIONAL Hill, M and associated persons	58.3	
MINERAL RESOURCES LTD United Resource Investment Holdings Ltd and associated interests	57.0	F
MAGNUM (ROTHMANS) Brierley Investments Ltd	70.8	
MILBURN Holderbank Financiere Glaris Ltd	80.3	F
MOUNT COOK Air New Zealand Ltd	80.4	
NZ DUTY FREE Agena Investments Ltd	67.4	
NZ LIGHT LEATHERS Strong & Fisher (Holdings) plc	82.0	F
NZ PETROLEUM Triton Energy Corporation Ltd	63.7	F
NORMEDIA XS Corporation Ltd	66.0	
NUPLEX Chemplex Australia Ltd and Snipe Nominees Ltd	73	F

OWENS GROUP		
Owens family and associated interests	52.5	
PANZ		
Portfolio Investments Ltd	54.6	
PARAPINE (GENESTOCK)		
Wells, G.	62.6	
PAYNTER CORPORATION		
Kiwicorp Financial Ltd and associated interests	82.9	
PDL		
Stewart family interest	56.9	
PERRY DINES		
Rich Dale Investments Pte Ltd and associates	82.9	F
PLATINUM GROUP METALS		
Taylor, GR; Norton, AM and McColl, GR	50.5	
PREMIER MINING SECURITIES		
Neda Investments Ltd	50.7	
PROPERTY LINK HOLDINGS		
Tag Corporation Ltd and Anthony Group Ltd	68.1	F
RADIO OTAGO		
Cargill Holdings	51.1	
RANK		
Rank Commercial Ltd	65.2	
RENOUF PROPERTIES		
Renouf Corporation Ltd	95	F
SCENIC CIRCLE CORPORATION		
Hagaman family	61.3	

SHORTLAND PROPERTIES Heriot Properties Ltd, Heriot Nominees Ltd and Courtnay Nominees Ltd	55.4	
SOUTHERN PETROLEUM Brierley Invesments Ltd	71.8	
SPECTRUM RESOURCES LTD Corporate Investments Ltd	51	
STEVENS KMS Vivax Holdings Ltd, Attwood Financial Services Ltd, Wahn Investments Ltd (Zuellig Group)	86.1	F
STRADA ENTERTAINMENT TRUST Emperor Investments Ltd	77.2	
STRATHMORE GROUP Thomson family	79.1	
STEEL AND TUBE Tubemakers of Australia Ltd	50.01	F
TAG PACIFIC Anthony Australia Pty Ltd	52.0	F
TAYLORS Robertson family interests	65.7	
UNITED RESOURCE INVESTMENT HOLDINGS Radford, Kennedy and associated interests	63.0	F

VENTURE PACIFIC		
Stratacorp Financial Services Ltd	85.9	
(National Provident Fund Ltd)		
WAIKATO STUD		
Hodgson, AG	60.5	
WASTE MANAGEMENT		
Pacific Waste Management	62.9	F

MINORITY CONTROLLED

(52 COMPANIES)

AIR NEW ZEALAND		
Brierley Investments Ltd	39.0	
[Matthew, RH; Cushing, SJ;		
Collins, PD; Reddy, PL]		
AMURI		
PCG Investments Ltd	33.6	
(Pyne Gould Corporation Ltd)		
[Dewar, RD; Gould, GH]		
ARTHUR BARNETT LTD		
Otago Sunday Times [JCS Smith]	20.9	
Cargill Holdings Ltd [Gilks, JW]	20.1	
ASIAN PROPERTIES		
Joye, IE	19.8	
Carpenter, JB	20.0	F
[both are directors]		
BAYCORP		
McLaughlin family interests	21.8	
[McLaughlin, NJ; McLaughlin, KG]		
BLANDFORD LODGE		
Cale Nominees Ltd (Freyer family)	37.5	
[Freyer, B; Freyer, J]		

BRIDGECORP		
FAI Met Life Group	40.2	F
CARBORNUDUM		
Hallam, D	33.1	
Ryan, B	43.8	
CARTER HOLT HARVEY		
Carter, KF and RH [directors]	22.4	
CAVALIER		
Timpson, AC and Biel, GCW interests [both are directors]	36.3	
COLONIAL MOTOR		
Gibbons family and associates [GH, JG, MH and PC Gibbons]	28.3	
COUNTRYWIDE		
Bank of Scotland [Pattullo, DB; Gibson, AT]	40.0	F
General Accident Insurance Co. NZ Ltd	20.0	
CREDITCORP		
Johnstone, SH; Dykes, RJ and associates [both are directors]	47.4	
CUE ENERGY		
Albers, EG and Hill, DB [both are directors]	48.1	F
DAMBA		
Van Dam family and associates [Van Dam, GJ; Van Dam, CQ; Van Dam, WA]	37.1	
DONAGHY'S		
Oakwood Securities Ltd [GJ Marsh; Greenslade, RWM; Valentine, MG]	24.8	
DUNBAR SLOANE		
Burdon, PR [on board]	18.0	
EASTERN EQUITIES		
Roebuck, PJ [a director]	29.1	

ERNEST ADAMS
Adams family interests 23.8
(from Directory of Shareholders 6/12/89)
[HA and RH Adams]

EURO-NATIONAL
Riom Enterprises Ltd 30.8
(Collins, JM; McMahon, PD;
Spencer, JB; Allbon, SM; Starkey, R)
[Spencer, JB; Starkey, TR]
Impala Pacific Ltd 24.9
(Renouf Corporation Ltd)
[Davidson, BC; Strange, AW]

FERNZ
Falls Creek Investments Ltd 29.5
[Hoggard, KM and Rathbone, DJ
- both directors]

FLETCHER CHALLENGE
Employee Share Purchase Schemes, 24.6
Pension Plan and Unit Trust
(including trustees holdings)
[Fletcher, JA; Fletcher, J; Sadler, DG;
Trotter, RR; Wilson, R]

FORTEX GROUP
Indu Farm Holding A.G. Ltd 21.3 F
[Fehlmann, PO; Finlayson, RJ]

GENERAL PROPERTIES
Navistar Group Ltd 49.8
[GR Lane]

GROCORP
Nitto Tochi Tatemono Co. Ltd 49.99 F
(Sanyo Securities Ltd, Japan)
[Tsuchiya, S; Yamada, S; McGrath, JP]

HALLENSTEINS
TC Glasson [a director] 31.8

HERITAGE MINING
Atkinson, PR [a director] 31.9 F

INDEPENDENT NEWSPAPERS
News Ltd 49.7 F
[Macpherson, JA; Searby, RH; Cowley, KE]

JARDEN MORGAN LTD
Sentrybank Corporation Ltd (New Zealand Insurance) [Kember, HJ; Clark, DA] — 42.6

KENWOOD STUD
Rangitira Ltd and McKenzie, RA [not represented] — 41.4

KUPE
Euro National Corporation Ltd [Chennells, MG; Starkey, TR] — *42.9

LION NATHAN
Myers, AD; Congreve, RL; Mace, CR; Ricketts, GT; Cooper, PC and associated persons [all of the above are directors] — 35.3%

MACRAES MINING
Union Gold Mining Co. Hlgs (N.Z.) Ltd [O'Connor, P; Crossley, WJ] — 49.0

MAINZEAL
Menzies, PF; Roy, J and associates [both are directors] — 33.5

MAIR ASTLEY
Mainzeal Group Ltd [King, JC; Menzies, PF; Roy, J] — 49.9

NZ OIL AND GAS
Kennedy, HD; Radford, RA and associates [both directors] — 42.9 F

NZ REFINING		
BP/Europa Companies	23.7	F
[Newman, DAR]		
Mobil Oil New Zealand Ltd	19.2	
[Peach, EAF; Atkinson, GA]		
Shell New Zealand Holding Co. Ltd	17.1	
[Dineen, BMJ; Dohmel, KAF]		
NZ SALMON		
National Bank of N.Z. Ltd and	15.8	F
Nichol, JE [a director]		
NUHAKA		
Caxton Paper Mills	8.7	
Greenwood, WJ	5.9	
CML Assurance Society Ltd	19.4	
OPIO		
Feltex Industries Group Ltd	40.9	
[Dingle, JR; Valentine, GW; Smith, KV; Wakeling, TALM; Ritchie, DS]		
PACER KERRIDGE		
Kerridge family interests	35.2	
[Kerridge, RJ]		
RADIO PACIFIC		
South Pacific Travel Holdings Ltd	25.7	
[Wadsworth, AG]		
REID FARMERS		
Pyne Gould Corporation Ltd	41.8	
[Dewar, RD]		
RENOUF CORPORATION LTD		
Ariadne Australia Ltd	36.5	F
[Capp, WB; Boyte, MR]		
South Pacific Merchant Finance Ltd	10.2	
Euro-National Corporation Ltd	8.3	
RJI		
Jones, R [a director]	27.3	
SALMOND SMITH BIOLAB		
AA Insurance Ltd	32.3	
[Knight, RF]		

SANFORD
Amalgamated Dairies Ltd, Avalon 43.1
Investment Trust and Goodfellow, WD
[Goodfellow, WD]

TRANSMARK
Alstrada Services Ltd 24.9
(Giltrap, CJ; Berry, HP)
[both directors]

TRIUMPH INDUSTRIES LTD
Thompson family interests 22.8
[Thompson, I]

U-BIX
Fernbank Industries Ltd 43.0
[Langford, V; Hill, DS]

WILSON NEILL
Herbert, CF; Marsh, GJ; Valentine, JA; 23.6
O'Donnell, BJ
[all of the above are directors]

XS
McCully, MS; Goodfellow, PJ; 47.6
Johnston, PL and Provan, KR
[Goodfellow is a director]

JOINT CONTROLLED

(4 COMPANIES)

FISHER & PAYKEL
Fisher and Paykel families and associates 13.4
[Fisher, G; Paykel, GA; Paykel, M]
National Nominees Ltd 13.3

REGAL SALMON
Shagin, TM 6.9
Austad, J 2.9
[both directors]

TV3 NETWORK	
Metromedia Holdings Ltd	5.8
[Egerton, T; Impey, B]	
Sherry, MM	11.2
(not represented)	
NBC International	7.5

WILSON HORTON	
AMP Society	18.5
ANZ Nominees Ltd	6.5
Trustees for staff share issues, Wilson and Horton family interests [Wilson, WJ; Horton, HM]	7.7

MANAGEMENT CONTROLLED (5 COMPANIES)

BRIERLEY	
ANZ Banking Group Ltd	6.6
National Australia Bank Ltd	4.9
AMP Society	4.8
Brierley, RA [a director]	3.7

CANTERBURY ROLLER FLOUR	
Tony Duke Kennels Pty Ltd	9.8
Brand, J [director]	6.6
Guardian Assurance PLC	5.0

CERAMCO	
AMP Society	12.8
(not represented)	
National Provident Fund Board	6.5
(not represented)	
Bidwill, CR [a director]	2.3

GOODMAN FIELDER WATTIE	
AMP Society	10.4
Barcora Pty Ltd	9.6
Avilock Ltd	9.2
NML Group	5.4
Asian Food Holdings Ltd	4.4
Pendal Nominees Ltd	3.3
Goodman family interests [Goodman, PL; Goodman, PH]	0.1

SMITHS CITY	
National Provident Fund Board	20.4
Tower Corporation	18.7

Appendix 7.3

CORPORATE AND FOREIGN CONTROL CLASSIFICATIONS, 1990

MAJORITY CONTROLLED
(58 COMPANIES)

AGLAND		
Strand (Australia) Ltd	71.1	F
ASCOT MANAGEMENT		
Oregon Forestry	75.1	F
BEST		
Huljich family interests	66.7	
BNZ FINANCE		
BNZ	77.9	F
BROADWAY		
Hubbard, AR and Rolleston, HJD	57.2	F
CBS FORESTS		
South Pacific Forests Holdings	78.1	
CDL		
CDL Hotels International	72.3	F
CREDITCORP		
Baycorp	90.0	

CUE		
Albers, EG and associates	85.5	F
DAMBA		
Van Dam family	51.6	
DB GROUP		
Tarax Holdings	54.7	F
(Asia Pacific Brewing, BIL, Heineken)		
DEFIANCE		
Defiance Mills Ltd	100.0	F
EBOS		
Kraus, P	62.3	
ENERCO		
BIL	69.7	F
FAY RICHWHITE		
M. Fay, D.M. Richwhite and associated interests	77.31	
FIRESTONE		
Bridgestone Firestone Inc	83.33	F
GOLD RESOURCES		
Mineral Resources and associated interests	53.1	F
GROCORP		
Sanyo General Capital Co. Ltd	50.2	F
GUINESS PEAT		
GPG plc	58.75	F
GULF RESOURCES		
Gulf USA Corporation	91.15	F
HUTTON'S		
BIL	51.0	F

KINGSGATE INTERNATIONAL Ballas and Frasers Nominees	79.0	F
KIWI INTERNATIONAL Moondance Ventures Ltd	79.27	
KUPE CDL Hotels International Ltd	52.39	F
LANE-WALKER RUDKIN BIL	70.0	F
LECTRICA Pirika Investments Ltd (D. Malley)	59.6	
MAIR ASTLEY Mainzeal Group Ltd	50.27	
MASTERTRADE PDL Holdings Ltd and associated interests	65.56	
McCONNELL DOWELL Australian Register Control	58.3	F
MICHAEL HILL Hill, RM	53.80	
MILBURN Zealhoff Holdings Ltd (Holderbank Financiere Glaris)	73.02	F
NORTHLAND PORT Northland Regional Council	72.33	
NZ LIGHT LEATHERS Strong and Fisher (Holdings) plc	82.05	F
NZOG Mineral Resources Ltd and associated interests	52.39	F

NZ PETROLEUM Triton Energy Corporation Ltd	59.90	F
PARAPINE TIMBER G R Wells and associate interests	59.48	
PAYNTER Kiwicorp Financial Services Ltd	55.78	
PDL HOLDINGS Stewart family interests	58.4	
PERRY DINES Rich Dale Investments Ltd	53.2	F
PORTS OF AUCKLAND Auckland Regional Council	79.99	
PORT OF TAURANGA Quayside Securities Ltd (Bay of Plenty Regional Council)	55.25	
PROGRESSIVE Foodland (NZ Holdings)	57.5	F
RADIO OTAGO Otago Sunday Times Ltd	50.1	
SHORTLAND PROPERTIES Heriot Properties Ltd (Todd Group)	65.28	
SHOTOVER JET Hill, GR]	52.94	
SKELLERUP BIL	50.33	F
SOUTHERN PETROLEUM Petrocorp Exploration Ltd	85.00	

SPECTRUM RESOURCES Corporate Investments Ltd	68.81	
STEEL AND TUBE Tubemakers of Australia Ltd	50.6	F
STEVENS KMS Zuellig Group Ltd	95.32	F
STRADA ENTERTAINMENT TRUST Emperor Enterprises Ltd	77.04	
STRATHMORE GROUP Thomson family interests	77.51	F
SUMMIT GOLD Orion Resources NL	50.8	
TAYLORS Spotless Catering Services (NZ) Ltd	54.76	
TELECOM Ameritech Holdings Ltd and Bell Atlantic Holdings	64.21	F
WASTE MANAGEMENT Pacific Waste Management Ltd	61.95	F
WHITCOULLS Rank Commercial Ltd	70.11	
WILSON NEILL Cadenza International Ltd [Adkins, PJ]	50.01	F

MINORITY CONTROLLED

(48 COMPANIES)

ADVANTAGE Gordon, NP and Smith, RD [both are directors]	34.0	
AIR NEW ZEALAND BIL [Matthew, RH]	35.4	F
AMURI CORPORATION PGC Corporation Ltd [Dewar, RD; Gould, GH; Gould, GAC; Elworthy, RF; Weir, R]	47.6	
APPLE FIELDS Kain family interests [Kain, GTC; Kain, GC]	40.2	
ARTHUR BARNETT Otago Sunday Times [Smith, JCS]	42.3	
ASIAN PROPERTIES Carpenter, JB	40.4	F
BAYCORP Ceramco [Bidwill, CR]	34.9	
CAVALIER Timpson and Beil family interests	29.1	
CEDENCO Manaco [represented by Cedenco executives]	25.0	
CHH BIL/International Paper [Cushing, SJ; Butler, RC; Dillion, JT; Hancox, BA; Oskin, DW]	32.6	F

CIL
Masfen, PH [a director] 48.0

COLONIAL MOTOR COMPANY
Gibbons family interests 47.6
[Gibbons, PC; Gibbons, MH; Gibbons, JG;
Gibbons, JP]

CULTUS
Fay, M. and Richwhite, DM [directors] 32.4

DONAGHY'S
Directors and families 20.0
[Marsh, JG; Greenslade, RWM]

DORCHESTER
Dorchester and Smyth Ltd 31.4
[Chinn, F; Alpe, CC; King, BD]

ENERGY DIRECT
Energy Direct Community Trust 20.0
[Burke, JB; Gibbs, EL; Abernethy, AS]

FERNZ
Falls Creek No. 2 Pty Ltd 24.17 F
+ Grantali Pty Ltd
[Hoggard, KM; Rathbone, DJ]

FLETCHER CHALLENGE LTD
class as MINORITY CONTROLLED

FRUITIFED
N.Z. Fruitgowers Charitable Trust 30.00
[Taylor, PW]

HALLENSTEINS
Glasson, TC [a director] 19.98

HERITAGE
Atkinson, PR [a director] 41.0 F

INDEPENDENT NEWSPAPERS
News Ltd, Australia 49.7 F

LION NATHAN		
A D Myers [a director]	27.78	
MACRAES		
Union Gold Mining Co. NL	35.00	F
[Fogarty, BT; Bennett, ML; O'Connor, P.]		
MAINZEAL		
Menzies, PF and Roy, J	26.94	
[both directors]		
NZI Corporation	32.24	
[represented by ?]		
MANOR INNS		
Parrant family interests	27.6	
[Parrant, LJ]		
MINERAL RESOURCES		
R A Radford and associated interests	41.30	F
[a director]		
MOUNT CAVENDISH		
Waterwheel NBOS Ltd	23.89	
[North, M]		
MR CHIPS		
Edgar, ES [a director]	45.3	
NATURAL GAS		
Petroleum Corporation of N.Z.	33.3	
[Falconer, WJ; Fletcher, AG]		
Australian Gas Light Pty Ltd	33.3	
NOEL LEEMING		
RS Bhatnagar [a director]	29.23	
NZ DUTY FREE		
Agena Investments Ltd	47.0	
[Seamer, MJ]		

NZ REFINING

BP Oil New Zealand Ltd	23.66	F
[Newman, D; Burnton, N; Gailey, G]		
Mobil Oil New Zealand Ltd	19.20	
[Law, J; Johnson, R]		
Shell New Zealand Holding Co. Ltd	17.14	
[Dineen, B; Kool, F]		

NZ RURAL PROPERTIES

Blue Ribbon Holdings Ltd	37.61	
[Cushing, SJ]		

NZ SALMON

National Bank of New Zealand	21.6	F
[Nichol, JE]		

OWENS GROUP

Owens, RA and associates	34.1	
[Owens, RA]		

POWER BEAT

Moari Development Corporation	20.33	
[Ward-Holmes, W]		
Witehira, P [a director]	18.28	

RADIO PACIFIC

Totalisator Agency Board	26.7	
Lowe, DSR [a director]	6.0	

REGAL

Competrol Pacific Ltd	25.0	F

REID FARMERS

Pyne Gould Corporation Ltd	43.72	
[Elworthy, RF; Martin, SD]		

RESTECH

Laht Investments	21.71	F
[Thompson, JL]		
Maxton Investments Ltd	20.02	
Marup Investments Ltd	12.50	
Dalray Investments Ltd	8.17	
[Johnson, TW]		

RJI
E. Van Otterloo and associated parties 28.61 F
[a director]

SANFORD
Amalgamated Dairies Ltd and associated intersts 45.02
[Goodfellow, WD]

TASMAN AGRICULTURE
BIL 37.0
[Exton, GH]

TRANSMARK CORPORATION
M.S. Shriro and D. Wilson 43.73

TRIUMPH INDUSTRIES
CED Distributors Ltd 34.0
[Thompson, MR]

U-BIX
Moari Development Corporation 27.65
and associated interests
[Ward-Holmes, W.G.; Knox, CF]

WANG NEW ZEALAND LTD.
Wang Laboratories Ltd 30.0 F
[Tucci, J.M.; Fisher, H.]

JOINT CONTROLLED

(7 COMPANIES)

BIL		
Franklin Resources Ltd, USA	10.9	F
[Wah, LC]		
DESIGNER TEXTILES		
[INSERT]		
DUNBAR SLOANE		
Sloane, DR and associates [a director]	13.0	
EASTERN EQUITIES		
Roebuck, PJ [a director]	14.3	
ERNEST ADAMS		
Adams family interests	9.4	
[Adams, HA+RH]		
WAIRARAPA ELECTRIC		
Centralpower Ltd	9.67	
Masterton Distict Council	12.00	
[Lodge, AG]		
WILLIAMS & KETTLE		
N.Z. Rural Properties Ltd	12.18	
[Cushing, SJ]		

MANAGEMENT CONTROLLED

(3 COMPANIES)

CRF		
Brand, J [a director]	8.0	
CERAMCO		
Bidwill, CR	3.3	

JARDINE FLEMING CHINA REGION
management controlled (1.4% = largest shareholding)

Appendix 8

PERFORMANCE AND CONTROL VARIABLES, 1987-93

VARIABLE: ROE

COMPANY	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*
A BARNETT	8.62	0.83	-7.77	-17.02	-42.69	3.81	10.37
BIL	13.02	10.42	13.68	15.78	7.65	7.70	9.64
BROTHER	21.35	5.77	7.69	15.24	7.95	12.04	12.17
CHH	21.25	12.68	14.52	13.96	10.28	8.24	7.82
COL. MOTOR	20.31	2.28	8.08	4.28	2.92	5.71	8.51
DONAGHY'S	11.06	6.42	8.03	9.38	9.54	10.48	11.14
E. ADAMS	17.33	11.93	16.17	14.72	10.05	10.71	10.83
EBOS	2.17	4.85	7.89	-18.69	4.95	6.97	13.78
F&P	13.68	15.33	10.79	9.83	1.79	3.54	7.62
FCL	13.78	18.93	18.51	16.43	11.72	-3.75	9.88
FERNZ	7.48	12.38	16.12	17.66	12.08	18.67	19.30
FIRESTONE	13.17	4.39	-0.26	0.52	-2.33	4.44	10.81
HB	15.27	11.69	6.65	8.40	13.61	20.02	27.78
INL	9.32	13.29	12.07	13.74	9.88	16.85	21.67
KINGSGATE	0.43	1.36	-5.72	-4.88	-8.29	-5.65	-39.43
MAGNUM	8.46	5.07	13.48	8.07	5.09	6.91	-4.91
MAIR	15.86	10.62	5.13	6.87	8.15	18.40	-8.99
MILBURN	12.50	9.45	10.02	10.14	7.37	9.69	13.51
NZ REFIN	10.63	8.91	6.27	18.12	19.80	19.40	49.16
PDL	9.50	2.37	9.40	-7.96	3.85	20.58	22.24
R. OTAGO	16.84	21.00	19.39	32.56	29.84	24.90	39.38
REID	11.11	10.75	15.58	14.86	14.68	15.51	13.24
S&T	3.17	0.63	-0.48	3.55	3.96	7.99	16.04
SANFORD	18.74	13.59	21.87	17.74	11.08	16.61	15.56

TAYLOR'S	26.05	11.54	-4.12	-5.39	-10.27	-36.92	-7.31
W HORTON	17.27	15.61	16.27	17.30	12.84	13.35	14.12
W NEILL	50.67	35.38	19.37	11.34	-6.35	-11.45	-141.33
W. MNGT	11.74	11.58	14.99	19.91	14.94	15.28	14.61
CIL	21.79	25.46	18.72	12.91	8.77	-107.22	31.13
GROCORP	1.37	-4.93	-12.36	-25.49	6.51	11.15	-9.64
NZ SALMON	-25.63	-26.05	-3.63	-16.14	-26.54	11.03	10.84
PARAPINE	-372.59	-1262.50	7.03	21.42	6.58	13.51	16.92
R. PACIFIC	38.24	36.43	16.88	13.95	4.18	24.93	26.27
RJI	2.21	3.56	3.10	3.39	-7.04	-28.32	-198.62
TRANSMARK	11.24	30.39	18.16	21.04	22.60	11.74	-13.11
TRIUMPH	48.50	-45.32	-5.56	6.93	13.38	-7.27	0.37
AMURI	2.71	2.65	2.86	4.32	3.92	-2.14	9.94
APPLE	24.78	4.01	5.64	5.03	6.83	6.63	9.82
BAYCORP	42.77	59.31	14.10	0.00	0.00	0.00	78.01
CARR	33.33	15.00	31.58	-25.52	-75.77	-36.02	2.45
CAVALIER	7.88	5.06	22.32	18.13	17.66	20.83	15.09
D.SLOANE	1.57	-24.57	6.73	7.69	9.01	0.82	-11.38
DAMBA	31.11	21.44	13.86	19.83	7.49	1.02	10.42
E.EQ	10.20	-21.95	12.58	3.75	12.93	20.45	7.90
GULF	3.83	3.95	5.09	3.99	3.36	3.25	4.93
HELI	8.97	6.73	10.23	14.19	16.09	17.57	17.81
LECTRICA	10.37	0.17	-9.15	-4.86	-83.95	-95.82	-263.51
MASTER	4.01	6.44	-3.68	4.54	-10.73	-2.37	3.88
MCCONNEL	-4.02	-48.50	-5.63	2.11	-517.22	0.63	-12.00
OWNES	15.27	6.31	-2.27	8.68	11.12	12.65	15.37
P.DINES	-1.02	3.08	-3.43	1.73	-11.54	-7.10	-69.35
S.KMS	15.37	-7.85	-263.30	0.00	79.74	66.14	60.59
SHORT	4.09	3.44	5.60	4.79	4.90	5.67	5.60
SSB	15.75	9.20	4.72	7.09	10.59	9.99	13.94
STRAT	-203.16	4.63	10.26	3.18	8.01	8.12	6.54
U-BIX	45.28	58.73	38.05	21.76	33.28	31.82	30.41

VARIABLE: ROA

COMPANY	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*
A BARNETT	11.36	2.34	1.26	1.37	-0.50	6.27	7.66
BIL	8.84	10.59	12.50	11.25	8.52	7.82	6.39
BROTHER	17.62	8.65	9.05	12.88	10.68	9.65	9.21
CHH	11.57	9.38	11.00	11.38	5.95	5.74	6.12
COL. MOTOR	18.66	8.10	9.60	6.46	4.71	7.50	9.87
DONAGHY'S	14.59	14.54	8.26	9.81	9.41	10.38	11.87
E. ADAMS	23.98	18.77	21.38	19.20	13.40	14.22	14.21
EBOS	8.35	11.77	9.75	-1.65	7.84	8.80	13.14
F&P	18.58	14.49	16.71	15.88	9.21	9.68	11.21
FCL	8.36	10.77	11.13	9.41	6.14	2.17	5.36
FERNZ	11.19	12.35	13.81	16.27	10.93	14.07	13.76
FIRESTONE	17.15	7.12	1.04	1.21	0.17	4.23	12.47
HB	17.38	13.53	9.39	11.36	17.48	23.71	30.95
INL	11.31	15.91	12.17	12.52	8.03	10.35	11.18
KINGSGATE	1.35	2.74	3.66	6.59	5.03	3.95	-14.57
MAGNUM	12.26	8.31	12.78	8.91	6.12	6.16	0.27
MAIR	10.11	11.71	9.66	10.64	9.89	14.13	-1.61
MILBURN	16.68	12.78	12.94	12.07	11.76	13.27	18.15
NZ REFIN	1.20	0.80	0.83	3.30	4.74	4.95	6.15
PDL	11.76	8.47	9.54	7.31	9.34	14.11	14.31
R. OTAGO	21.57	12.58	19.29	19.33	20.22	21.82	28.02
REID	15.98	16.63	16.04	14.91	14.53	14.48	12.05
S&T	8.34	6.50	4.93	6.56	7.43	11.01	12.29
SANFORD	21.07	20.11	29.84	25.74	12.80	21.22	18.34
TAYLOR'S	14.73	15.13	8.33	6.27	6.09	0.52	4.06
W HORTON	28.23	26.25	19.42	24.47	17.06	17.28	17.01
W NEILL	30.36	20.06	12.41	11.84	7.72	3.95	-9.11
W. MNGT	16.37	12.81	16.65	18.04	16.85	15.12	12.99
CIL	14.18	9.46	10.63	11.31	8.20	-19.32	10.29
GROCORP	0.97	-0.08	-8.47	-14.91	6.57	9.99	-3.36
NZ SALMON	-10.12	-9.91	2.55	-5.26	-19.30	10.88	10.66
PARAPINE	-111.05	-81.76	6.39	11.38	6.35	9.55	16.53
R. PACIFIC	46.57	45.22	14.54	17.46	12.45	26.84	35.27
RJI	3.16	5.44	5.22	5.48	1.99	-5.33	-30.61
TRANSMARK	16.81	16.32	19.75	23.40	19.39	13.81	-0.72
TRIUMPH	24.40	-27.22	-3.96	5.88	10.82	-6.04	0.35
AMURI	5.25	4.20	4.10	7.29	7.49	5.21	10.59

APPLE	15.30	8.68	6.73	7.58	8.87	7.78	8.54
BAYCORP	31.50	37.91	12.64	-78.97	0.94	22.66	24.17
CARR	15.94	10.42	14.22	1.34	-44.69	-17.90	2.24
CAVALIER	21.42	5.77	9.02	14.87	14.02	13.87	15.75
D.SLOANE	6.90	-24.08	5.53	7.57	9.63	1.06	-10.25
DAMBA	47.87	34.16	16.94	21.59	11.99	3.61	11.53
E.EQ	10.67	-1.56	13.13	8.22	12.03	15.74	4.36
GULF	6.87	5.15	5.68	6.26	7.16	7.54	8.24
HELI	7.92	3.43	10.38	12.62	17.50	17.08	13.75
LECTRICA	13.58	4.56	0.91	2.98	-41.96	-33.08	-65.61
MASTER	8.20	8.64	0.08	7.00	-1.37	2.21	4.58
MCCONNEL	3.14	-2.64	6.40	0.66	-26.04	10.31	-0.58
OWNES	8.52	10.53	7.75	10.09	9.37	8.55	9.91
P.DINES	1.86	3.74	-1.75	1.71	-7.63	-4.98	-48.09
S.KMS	8.73	9.80	-6.10	0.05	9.68	12.60	12.50
SHORT	4.54	3.91	5.82	5.03	5.51	7.82	5.96
SSB	19.03	13.43	8.61	10.36	9.32	12.50	15.93
STRAT	-14.37	10.73	7.87	2.81	7.65	7.94	6.47
U-BIX	32.06	21.02	20.07	18.78	11.41	16.97	15.05

VARIABLE: LEVERAGE

COMPANY	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*
A BARNETT	0.28	0.59	0.61	0.67	0.72	0.72	0.53
BIL	0.84	0.81	0.73	0.75	0.53	0.41	0.38
BROTHER	0.72	0.68	0.71	0.69	0.56	0.61	0.62
CHH	0.71	0.44	0.58	0.50	0.70	0.60	0.47
COL. MOTOR	0.49	0.40	0.40	0.35	0.23	0.23	0.28
DONAGHY'S	0.39	0.37	0.50	0.47	0.46	0.48	0.43
E. ADAMS	0.24	0.28	0.18	0.19	0.23	0.17	0.12
EBOS	0.67	0.61	0.55	0.69	0.63	0.53	0.48
F&P	0.31	0.43	0.53	0.38	0.39	0.33	0.30
FCL	0.67	0.70	0.69	0.70	0.60	0.70	0.64
FERNZ	0.59	0.61	0.62	0.61	0.57	0.58	0.53
FIRESTONE	0.23	0.19	0.28	0.33	0.22	0.33	0.30
HB	0.39	0.57	0.47	0.49	0.31	0.21	0.18
INL	0.36	0.48	0.51	0.50	0.59	0.56	0.50
KINGSGATE	0.21	0.45	0.50	0.52	0.50	0.59	0.51
MAGNUM	0.29	0.19	0.26	0.32	0.46	0.56	0.40
MAIR	0.59	0.65	0.70	0.65	0.65	0.55	0.62
MILBURN	0.39	0.45	0.52	0.51	0.43	0.38	0.26
NZ REFIN	0.93	0.93	0.91	0.88	0.91	0.82	0.88
PDL	0.65	0.83	0.81	0.82	0.70	0.60	0.48
R. OTAGO	0.35	0.66	0.51	0.74	0.59	0.58	0.53
REID	0.59	0.57	0.56	0.57	0.52	0.51	0.60
S&T	0.56	0.53	0.37	0.48	0.47	0.34	0.38
SANFORD	0.55	0.55	0.38	0.44	0.37	0.25	0.28
TAYLOR'S	0.64	0.64	0.60	0.62	0.64	0.65	0.60
W HORTON	0.31	0.21	0.51	0.47	0.29	0.23	0.26
W NEILL	0.54	0.63	0.70	0.63	0.72	0.79	0.87
W. MNGT	0.41	0.43	0.35	0.48	0.32	0.35	0.42
CIL	0.56	0.77	0.73	0.63	0.47	0.66	0.41
GROCORP	0.30	0.40	0.07	0.35	0.43	0.35	0.42
NZ SALMON	0.36	0.38	0.38	0.39	0.08	0.03	0.02
PARAPINE	0.64	0.92	0.92	0.89	0.76	0.55	0.55
R. PACIFIC	0.35	0.33	0.42	0.48	0.13	0.18	0.15
RJI	0.39	0.37	0.42	0.44	0.54	0.56	0.79
TRANSMARK	0.47	0.77	0.70	0.65	0.64	0.56	0.53
TRIUMPH	0.72	0.34	0.12	0.16	0.19	0.16	0.18
AMURI	0.24	0.15	0.29	0.37	0.46	0.56	0.51

APPLE	1.47	0.45	0.42	0.45	0.45	0.39	0.40
BAYCORP	0.62	0.58	0.52	1.02	1.12	0.96	0.70
CARR	0.68	0.55	0.64	0.81	0.32	0.42	0.38
CAVALIER	1.96	0.72	0.58	0.44	0.38	0.45	0.38
D.SLOANE	0.06	0.02	0.01	0.02	0.01	0.00	0.03
DAMBA	0.25	0.21	0.24	0.37	0.27	0.36	0.40
E.EQ	0.26	0.66	1.10	0.41	0.47	0.44	0.20
GULF	1.01	0.27	0.50	0.44	0.54	0.63	0.66
HELI	0.11	0.45	0.42	0.56	0.47	0.41	0.52
LECTRICA	0.49	0.50	0.51	0.52	0.49	0.60	0.73
MASTER	0.38	0.50	0.52	0.50	0.57	0.42	0.25
MCCONNEL	0.78	0.83	0.80	0.07	0.91	0.70	0.82
OWNES	0.77	0.67	0.73	0.71	0.65	0.59	0.59
P.DINES	0.27	0.24	0.17	0.10	0.11	0.13	0.30
S.KMS	0.63	0.76	0.93	1.01	0.91	0.86	0.86
SHORT	0.98	0.08	0.15	0.17	0.29	0.27	0.22
SSB	0.46	0.44	0.38	0.39	0.34	0.34	0.34
STRAT	0.81	0.32	0.24	0.09	0.04	0.02	0.01
U-BIX	0.61	0.61	0.55	0.43	0.70	0.70	0.74

VARIABLE: SIZE

COMPANY	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*
A BARNETT	10.18	10.75	10.70	10.70	10.45	10.48	10.56
BIL	16.28	16.23	15.97	16.04	16.30	16.24	16.12
BROTHER	8.89	10.55	10.66	10.74	10.63	10.95	11.02
CHH	14.37	14.56	14.81	14.92	15.75	15.66	15.64
COL. MOTOR	11.52	11.40	11.44	11.46	11.33	11.38	11.49
DONAGHY'S	11.07	11.12	11.51	11.57	11.71	11.73	11.79
E. ADAMS	9.35	9.62	9.65	9.78	10.15	10.14	10.17
EBOS	9.54	9.43	9.33	9.49	9.35	9.15	9.19
F&P	12.59	12.88	12.96	12.86	12.94	12.85	12.87
FCL	15.90	16.26	16.46	16.68	16.74	16.87	16.62
FERNZ	12.25	12.47	12.58	12.71	12.76	12.88	12.87
FIRESTONE	10.95	10.88	10.99	10.96	10.78	10.99	11.03
HB	11.22	11.11	10.89	10.93	10.82	10.78	10.91
INL	12.23	12.37	12.58	12.69	13.39	13.37	13.38
KINGSGATE	12.62	12.92	12.97	12.70	12.66	12.46	12.25
MAGNUM	13.51	13.94	13.66	13.80	14.01	13.77	13.64
MAIR	12.09	12.35	12.42	12.30	12.16	12.08	11.92
MILBURN	11.74	11.88	12.07	12.11	12.08	12.05	12.06
NZ REFIN	14.50	14.44	14.39	14.36	14.27	14.29	14.14
PDL	11.52	12.06	12.13	12.09	11.94	11.75	11.87
R. OTAGO	8.08	9.21	8.61	8.57	8.72	8.84	8.96
REID	10.44	10.47	10.57	10.73	10.81	10.91	10.97
S&T	12.90	12.78	12.18	12.32	12.20	11.90	12.06
SANFORD	11.12	11.16	11.14	11.27	12.31	12.26	12.40
TAYLOR'S	9.71	10.02	10.02	9.95	9.80	9.59	9.30
W HORTON	11.95	12.11	12.34	12.44	12.63	12.70	12.80
W NEILL	12.14	12.55	13.20	13.04	12.87	12.81	12.33
W. MNGT	9.60	9.78	9.84	10.28	10.41	10.61	10.87
CIL	12.25	12.98	13.07	13.16	13.23	13.05	12.44
GROCORP	9.49	9.53	10.05	9.90	10.10	10.23	10.30
NZ SALMON	10.23	10.03	10.17	10.06	9.23	9.37	9.48
PARAPINE	6.61	5.76	9.03	8.97	9.24	9.34	9.42
R. PACIFIC	7.80	7.95	8.24	7.94	7.89	8.30	8.32
RJI	13.32	13.68	14.19	14.38	14.06	13.91	13.51
TRANSMARK	10.15	11.02	10.82	10.73	10.86	11.01	10.79
TRIUMPH	8.45	7.61	7.39	7.51	7.69	7.58	7.60
AMURI	10.80	10.89	11.10	11.07	11.18	10.83	10.83

APPLE	8.94	10.41	10.89	11.29	11.37	11.46	11.39
BAYCORP	10.22	10.51	10.76	10.13	9.92	9.79	9.61
CARR	6.62	6.96	7.19	7.71	6.43	6.10	9.96
CAVALIER	10.10	11.65	11.77	11.58	11.53	11.72	11.66
D.SLOANE	9.61	9.48	9.65	9.85	9.85	9.82	9.65
DAMBA	8.57	8.63	8.64	8.91	8.78	8.95	8.95
E.EQ	9.34	10.18	10.02	10.15	10.09	10.28	10.92
GULF	11.51	11.88	12.11	12.89	12.91	12.92	12.79
HELI	9.92	10.41	10.43	10.86	10.84	11.04	11.38
LECTRICA	9.86	9.81	9.71	9.52	8.97	8.52	7.62
MASTER	11.08	11.43	11.46	11.43	11.43	11.07	11.21
MCCONNEL	13.27	12.92	12.74	15.08	12.23	11.40	11.68
OWNES	12.26	11.97	11.72	11.70	11.58	11.53	11.49
P.DINES	11.26	11.06	11.03	11.01	10.96	11.04	10.77
S.KMS	11.28	11.25	11.18	11.08	11.36	11.27	11.51
SHORT	11.57	11.86	11.71	11.78	11.82	11.74	11.98
SSB	11.14	11.17	11.03	11.06	11.03	11.12	11.24
STRAT	10.92	9.69	9.64	9.48	9.52	9.59	9.65
U-BIX	9.51	9.95	10.10	10.12	10.99	11.17	11.44

VARIABLE: COMPANY INTERLOCKS

	1987	1990	1993
A BARNETT	5	4	2
BIL	19	8	8
BROTHER	6	7	7
CHH	8	4	8
COL. MOTOR	0	0	0
DONAGHY'S	7	4	3
E. ADAMS	4	0	0
EBOS	4	2	0
F&P	12	5	6
FCL	13	9	8
FERNZ	13	3	3
FIRESTONE	2	1	0
HB	2	0	0
INL	7	3	5
KINGSGATE	6	3	0
MAGNUM	10	4	2
MAIR	9	2	4
MILBURN	1	0	1
NZ REFIN	6	7	9
PDL	1	1	1
R. OTAGO	5	4	2
REID	5	3	2
S&T	4	3	1
SANFORD	2	1	1
TAYLOR'S	6	4	3
W HORTON	4	2	3
W NEILL	16	4	2
W. MNGT	0	0	0
CIL	14	6	1
GROCORP	6	0	1
NZ SALMON	6	8	7
PARAPINE	6	2	0
R. PACIFIC	2	2	1
RJI	0	0	1
TRANSMARK	8	1	0